Roland ED

GENERAL MIDI2

SC-D70

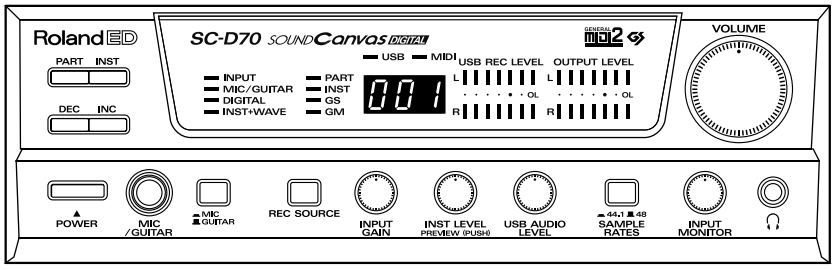
SOUND Canvas DIGITAL

Owner's Manual

Thank you for purchasing the Roland Sound Canvas Digital SC-D70.

Before using this unit, carefully read the sections entitled: "IMPORTANT SAFETY INSTRUCTIONS" (Owner's manual p. 3), "USING THE UNIT SAFELY" (Owner's manual p. 4), and "IMPORTANT NOTES" (Owner's manual p. 6). These sections provide important information concerning the proper operation of the unit. Additionally, in order to feel assured that you have gained a good grasp of every feature provided by your new unit, Start-up manual and Owner's manual should be read in its entirety. The manual should be saved and kept on hand as a convenient reference.

* GS ( ) is a registered trademark of Roland Corporation.
* All product names mentioned in this document are trademarks or registered trademarks of their respective owners.



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CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN

ATTENTION: RISQUE DE CHOC ELECTRIQUE NE PAS OUVRIR

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

INSTRUCTIONS PERTAINING TO A RISK OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS.

IMPORTANT SAFETY INSTRUCTIONS
SAVE THESE INSTRUCTIONS

WARNING - When using electric products, basic precautions should always be followed, including the following:

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with a damp cloth.
7. Do not block any of the ventilation openings. Install in accordance with the manufacturers instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. When the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Never use with a cart, stand, tripod, bracket, or table except as specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

For the U.K.

IMPORTANT: THE WIRES IN THIS MAINS LEAD ARE COLOURED IN ACCORDANCE WITH THE FOLLOWING CODE.

BLUE: NEUTRAL
BROWN: LIVE

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:
The wire which is coloured BLUE must be connected to the terminal which is marked with the letter N or coloured BLACK.
The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured RED.
Under no circumstances must either of the above wires be connected to the earth terminal of a three pin plug.

USING THE UNIT SAFELY

INSTRUCTIONS FOR THE PREVENTION OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS

About ⚠WARNING and ⚠CAUTION Notices

⚠WARNING	Used for instructions intended to alert the user to the risk of death or severe injury should the unit be used improperly.
⚠CAUTION	Used for instructions intended to alert the user to the risk of injury or material damage should the unit be used improperly. * Material damage refers to damage or other adverse effects caused with respect to the home and all its furnishings, as well to domestic animals or pets.

About the Symbols

⚠	The △ symbol alerts the user to important instructions or warnings.The specific meaning of the symbol is determined by the design contained within the triangle. In the case of the symbol at left, it is used for general cautions, warnings, or alerts to danger.
	The ⃠ symbol alerts the user to items that must never be carried out (are forbidden). The specific thing that must not be done is indicated by the design contained within the circle. In the case of the symbol at left, it means that the unit must never be disassembled.
	The ● symbol alerts the user to things that must be carried out. The specific thing that must be done is indicated by the design contained within the circle. In the case of the symbol at left, it means that the power-cord plug must be unplugged from the outlet.

ALWAYS OBSERVE THE FOLLOWING

⚠WARNING

- Before using this unit, make sure to read the instructions below, and the Owner's Manual.

- Do not open or perform any internal modifications on the unit.

- Do not attempt to repair the unit, or replace parts within it (except when this manual provides specific instructions directing you to do so). Refer all servicing to your retailer, the nearest Roland Service Center, or an authorized Roland distributor, as listed on the "Information" page.

- Never use or store the unit in places that are:
  - Subject to temperature extremes (e.g., direct sunlight in an enclosed vehicle, near a heating duct, on top of heat-generating equipment); or are
  - Damp (e.g., baths, washrooms, on wet floors); or are
  - Humid; or are
  - Exposed to rain; or are
  - Dusty; or are
  - Subject to high levels of vibration.

- Make sure you always have the unit placed so it is level and sure to remain stable. Never place it on stands that could wobble, or on inclined surfaces.

- The unit should be connected to a power supply only of the type described in the operating instructions, or as marked on the unit.

⚠WARNING

- Do not excessively twist or bend the power cord, nor place heavy objects on it. Doing so can damage the cord, producing severed elements and short circuits. Damaged cords are fire and shock hazards!

- This unit, either alone or in combination with an amplifier and headphones or speakers, may be capable of producing sound levels that could cause permanent hearing loss. Do not operate for a long period of time at a high volume level, or at a level that is uncomfortable. If you experience any hearing loss or ringing in the ears, you should immediately stop using the unit, and consult an audiologist.

- Do not allow any objects (e.g., flammable material, coins, pins); or liquids of any kind (water, soft drinks, etc.) to penetrate the unit.

- In households with small children, an adult should provide supervision until the child is capable of following all the rules essential for the safe operation of the unit.

- Protect the unit from strong impact.
  (Do not drop it!)

- Do not force the unit's power-supply cord to share an outlet with an unreasonable number of other devices. Be especially careful when using extension cords—the total power used by all devices you have connected to the extension cord's outlet must never exceed the power rating (watts / amperes) for the extension cord. Excessive loads can cause the insulation on the cord to heat up and eventually melt through.

⚠ WARNING

- Before using the unit in a foreign country, consult with your retailer, the nearest Roland Service Center, or an authorized Roland distributor, as listed on the "Information" page.

- DO NOT play a CD-ROM disc on a conventional audio CD player. The resulting sound may be of a level that could cause permanent hearing loss. Damage to speakers or other system components may result.

⚠ CAUTION

- The unit should be located so that its location or position does not interfere with its proper ventilation.

- Always grasp only the plug on the power-supply cord when plugging into, or unplugging from, an outlet or this unit.

- Try to prevent cords and cables from becoming entangled. Also, all cords and cables should be placed so they are out of the reach of children.

- Never climb on top of, nor place heavy objects on the unit.

- Never handle the power cord or its plugs with wet hands when plugging into, or unplugging from, an outlet or this unit.

- Before moving the unit, disconnect the power plug from the outlet, and pull out all cords from external devices.

- Before cleaning the unit, turn off the power and unplug the power cord from the outlet.

- Whenever you suspect the possibility of lightning in your area, pull the plug on the power cord out of the outlet.

- Should you remove the optical connector caps, make sure to put them in a safe place out of children's reach, so there is no chance of them being swallowed accidentally.

IMPORTANT NOTES

In addition to the items listed under "IMPORTANT SAFETY INSTRUCTIONS" and "USING THE UNIT SAFELY" on pages 2 and 3, please read and observe the following:

Power Supply

Power Supply: Use of Batteries

- Do not use this unit on the same power circuit with any device that will generate line noise (such as an electric motor or variable lighting system).
- Before connecting this unit to other devices, turn off the power to all units. This will help prevent malfunctions and / or damage to speakers or other devices.

Placement

- Using the unit near power amplifiers (or other equipment containing large power transformers) may induce hum. To alleviate the problem, change the orientation of this unit; or move it farther away from the source of interference.
- This device may interfere with radio and television reception. Do not use this device in the vicinity of such receivers.
- Do not expose the unit to direct sunlight, place it near devices that radiate heat, leave it inside an enclosed vehicle, or otherwise subject it to temperature extremes. Excessive heat can deform or discolor the unit.
- To avoid possible breakdown, do not use the unit in a wet area, such as an area exposed to rain or other moisture.

Maintenance

- For everyday cleaning wipe the unit with a soft, dry cloth or one that has been slightly dampened with water. To remove stubborn dirt, use a cloth impregnated with a mild, non-abrasive detergent. Afterwards, be sure to wipe the unit thoroughly with a soft, dry cloth.
- Never use benzine, thinners, alcohol or solvents of any kind, to avoid the possibility of discoloration and / or deformation.

Additional Precautions

- Use a reasonable amount of care when using the unit's buttons, sliders, or other controls; and when using its jacks and connectors. Rough handling can lead to malfunctions.
- Never strike or apply strong pressure to the display.
- When connecting / disconnecting all cables, grasp the connector itself—never pull on the cable. This way you will avoid causing shorts, or damage to the cable's internal elements.
- A small amount of heat will radiate from the unit during normal operation.
- To avoid disturbing your neighbors, try to keep the unit's volume at reasonable levels. You may prefer to use headphones, so you do not need to be concerned about those around you (especially when it is late at night).
- When you need to transport the unit, package it in the box (including padding) that it came in, if possible. Otherwise, you will need to use equivalent packaging materials.
- Use a cable from Roland to make the connection. If using some other make of connection cable, please note the following precautions.
  - Some connection cables contain resistors. Do not use cables that incorporate resistors for connecting to this unit. The use of such cables can cause the sound level to be extremely low, or impossible to hear. For information on cable specifications, contact the manufacturer of the cable.

Handling CD-ROMs

- Avoid touching or scratching the shiny underside (encoded surface) of the disc. Damaged or dirty CD-ROM discs may not be read properly. Keep your discs clean using a commercially available CD cleaner.

Contents

Main Features

Both a MIDI sound generator and an audio interface

The SC-D70 provides a complete platform for desktop music production with MIDI and audio. It allows you to create sequence data that combines MIDI and audio, and allows MIDI → audio conversion by looping back the output of the sound generator—all by connecting a single USB cable.

24-bit/48 kHz USB audio interface

An original Roland driver and custom IC are used to support 24-bit / 48 kHz USB audio. ASIO 1.0 is also supported, allowing songs with audio tracks to be created using numerous sequencer programs.

Digital audio I/O

The SC-D70 provides digital audio I / O. By connecting it with external digital audio devices such as CD or MD, the output of the song you create can be converted into digital form. Both optical and coaxial connectors are provided.

GM (General MIDI)/GM 2 (General MIDI 2)/GS format support

The SC-D70 supports the GM, GM2, and GS formats. Music data conforming to the GM / GM2 / GS formats can be played by a computer or sequencer on the SC-D70.

32-part/64-voice sound generator

The SC-D70 contains a 32-part, 64-voice multitimbral sound generator. You can enjoy ensemble performance using just a single SC-D70.

* *Only when the USB connector is used. When the MIDI connectors are used, a maximum of 16 parts are available.*

Versatile and high-quality sounds

The SC-D70 provides a versatile and high-quality selection of 1,608 sounds and 63 drum sets. These include the same sounds as the SC-55 / 55mkII, SC-88, SC-88Pro, and SC-8820, allowing you to enjoy your existing music data or commercially available music data. (*1)

Furthermore, the sounds that are available on the SC-8820 tone map are organized in a manner that is compatible with the top-of-the-line SC-8850. This means that music data that was produced for the SC-8850 can be played back using essentially the same instrumentation (*2).

**1 The performance may differ slightly depending on the data.*

**2 Although the arrangement of sounds in the SC-8850 map and the SC-8820 map are identical, differences in the waveform data that is used, the number of voices used by each sound, and the maximum polyphony of each device may mean that the reproduction may not be perfect.*

A full complement of effects

The SC-D70 provides 64 different insertion effects, 8 kinds of reverb, 8 kinds of chorus, 10 kinds of delay, and a two-band equalizer. In addition, you can adjust the parameter settings of each effect for total control over your sound.

GM (General MIDI)

General MIDI is a set of recommendations which seeks to provide a way to go beyond the limitations of proprietary designs, and standardize the MIDI capabilities of sound generating devices. Sound generating devices and music files that meet the General MIDI standard bear the General MIDI logo ( ).
Music files bearing the General MIDI logo can be played back using any General MIDI sound generating unit to produce essentially the same musical performance.

GM2 (General MIDI 2)

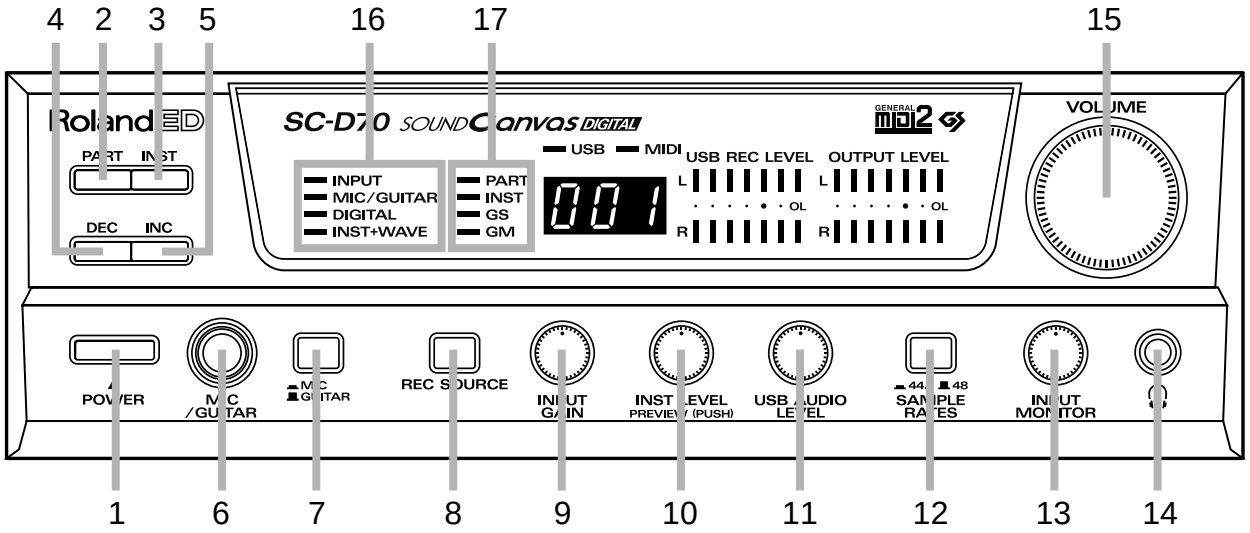
The upwardly compatible General MIDI 2 ( ) recommendations pick up where the original General MIDI left off, offering enhanced expressive capabilities, and even greater compatibility.
Issues that were not covered by the original General MIDI recommendations, such as how sounds are to be edited, and how effects should be handled, have now been precisely defined. Moreover, the available sounds have been expanded.
General MIDI 2 compliant sound generators are capable of reliably playing back music files that carry either the General MIDI or General MIDI 2 logo.
In some cases, the conventional form of General MIDI, which does not include the new enhancements, is referred to as “General MIDI 1” as a way of distinguishing it from General MIDI 2.

GS Format

The GS Format ( ) is Roland’s set of specifications for standardizing the performance of sound generating devices. In addition to including support for everything defined by the General MIDI, the highly compatible GS Format additionally offers an expanded number of sounds, provides for the editing of sounds, and spells out many details for a wide range of extra features, including effects such as reverb and chorus.
Designed with the future in mind, the GS Format can readily include new sounds and support new hardware features when they arrive.

Names and Functions

Front Panel



1. POWER Switch

This turns the power on / off.

2. PART Button

Press this when you wish to change the Part number. When you press [PART], the **display window** will show the currently selected part number.

3. INST (Instrument) Button

Press this when you wish to change the Instrument number. When you press [INST], the **display window** will show the currently selected instrument number.

4. DEC (Decrement) Button

When you press [DEC], the value shown in the **display window** will decrease.

5. INC (Increment) Button

When you press [INC], the value shown in the **display window** will increase.

* *If **INST** is lit for the **sound generator indicator**, simultaneously pressing [DEC] and [INC] will make the **display window** show the currently selected variation number. Use this operation if you wish to change the variation number.*

6. Mic/Guitar Input Jack

A microphone or guitar can be connected to this jack.

7. Mic/Guitar Gain Select Switch

Selects whether a microphone or a guitar is connected to the **Mic/guitar input jack**. MIC is selected when this switch is pressed in, and GUITAR is selected when the switch is in the outward position.

8. Recording Source Select Button

Selects the recording source. The source selected here will be output via USB to the PC. For details refer to the **Selecting the recording source** (p. 21).

9. Audio Input Gain Knob

This adjusts the input gain of the audio signal that is input from the [audio input jacks] and the **mic/guitar input jack**.

10. Sound Generator Level Knob/Preview Switch

This knob adjusts the level of the SC-D70's internal sound generator. By pressing this switch, you can also preview the sound of the currently selected instrument.

If you press in this switch while you turn on the power, the SC-D70 will start up in **MIDI mode** (p. 39).

11. USB Audio Level Knob

This knob adjusts the input level of the audio signal that is sent via the USB connector from the computer.

12. Sampling Frequency Select Switch

This switch selects the sampling frequency of the digital audio signal. The sampling frequency is determined by the position of this switch at the time the power is turned on. The sampling frequency will not change if you operate this switch while the SC-D70 is running.

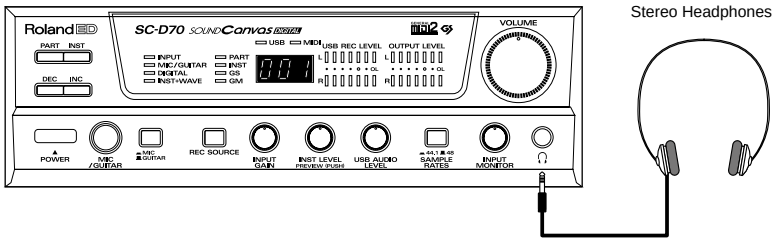
13. Audio Input Monitor Level Knob

While recording on the computer, this knob adjusts the level at which the audio signal from the audio input jacks will be monitored through headphones or the like.

This knob will not affect the audio signal that is sent to the PC via USB (i.e., the audio signal that is actually recorded).

14. Headphone Jack

A pair of headphones can be connected to this jack. The output from this jack is the same as from the audio output 1 jacks.



15. VOLUME Knob

This knob adjusts the output level of the audio signal that is output from the **headphone jack** and the rear panel **audio output 1 jacks**.

16. Recording Source Indicators

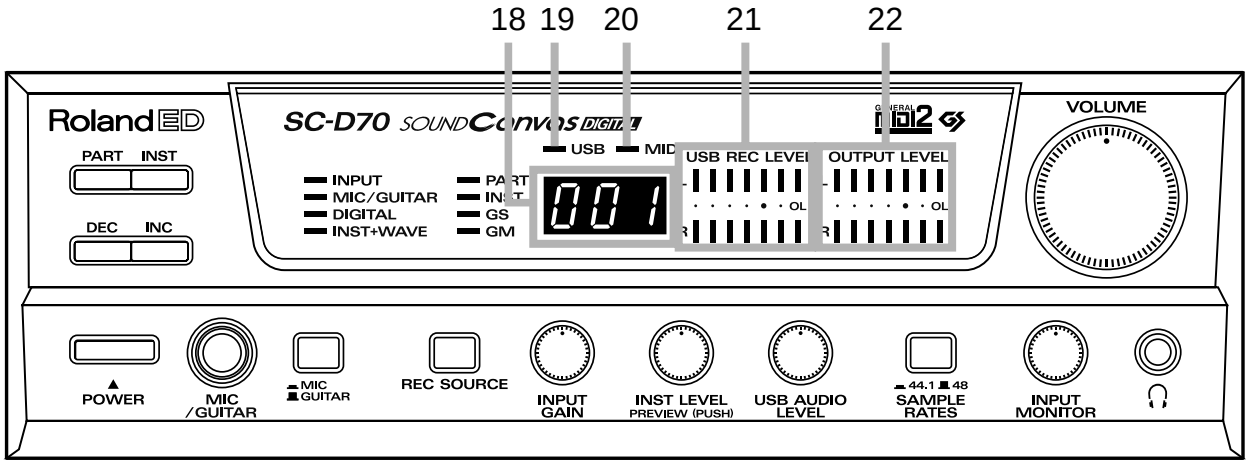
These indicate the currently selected recording source. If two or more are lit, all of them will be mixed and output to the computer. For details refer to the **The structure of the internal mixer** (p. 22).

17. Sound Generator Indicators

The indicator that is lit shows what is currently displayed in the **display window**.

PART lit: Part number
INST lit: Instrument number
INST blinking: Variation number

The **GS** and **GM** indicators show whether the internal sound generator is operating in GS mode or GM mode.



18. Display Window

This shows the current part number, instrument number, or variation number.

19. USB Connection Indicator

In **USB mode** (p. 39), this will light when the SC-D70 is connected to the computer via USB.

20. MIDI Indicator

This will light when the SC-D70 receives MIDI messages.

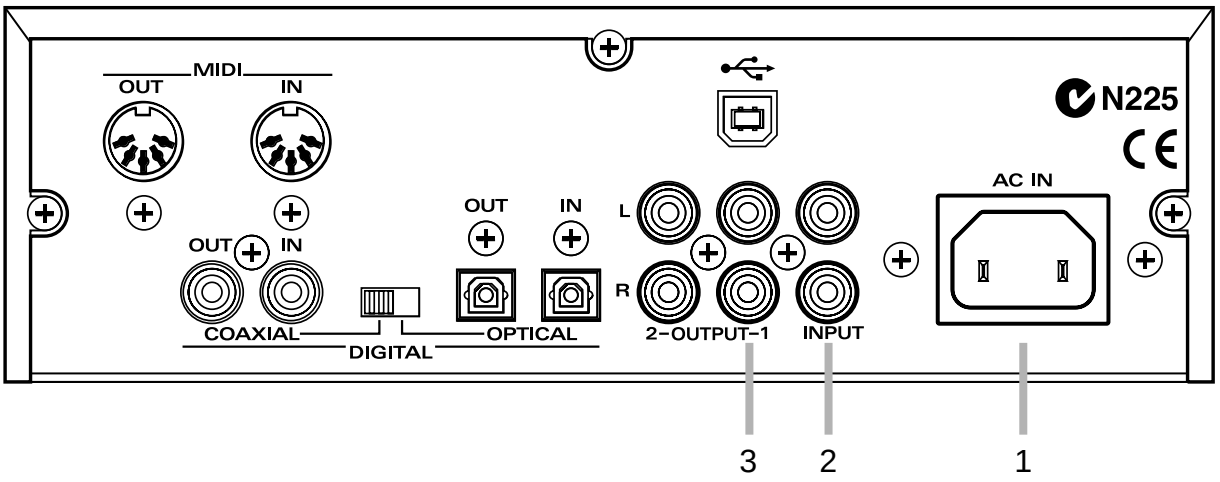
21. USB Recording Level Indicator

This shows the output level of the audio signals sent from the **USB connector** to the computer.

22. OUTPUT Level Indicator

This shows the output level of the audio signal that is output from the rear panel **audio output jacks** and **digital output connectors**.

Rear Panel



1. AC Inlet

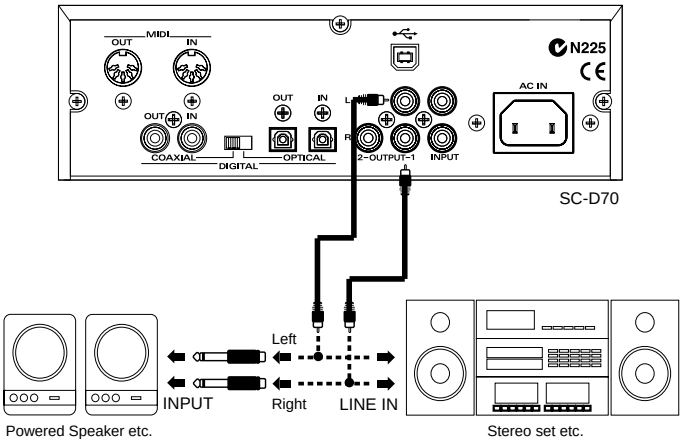
Connect the supplied AC cable here.

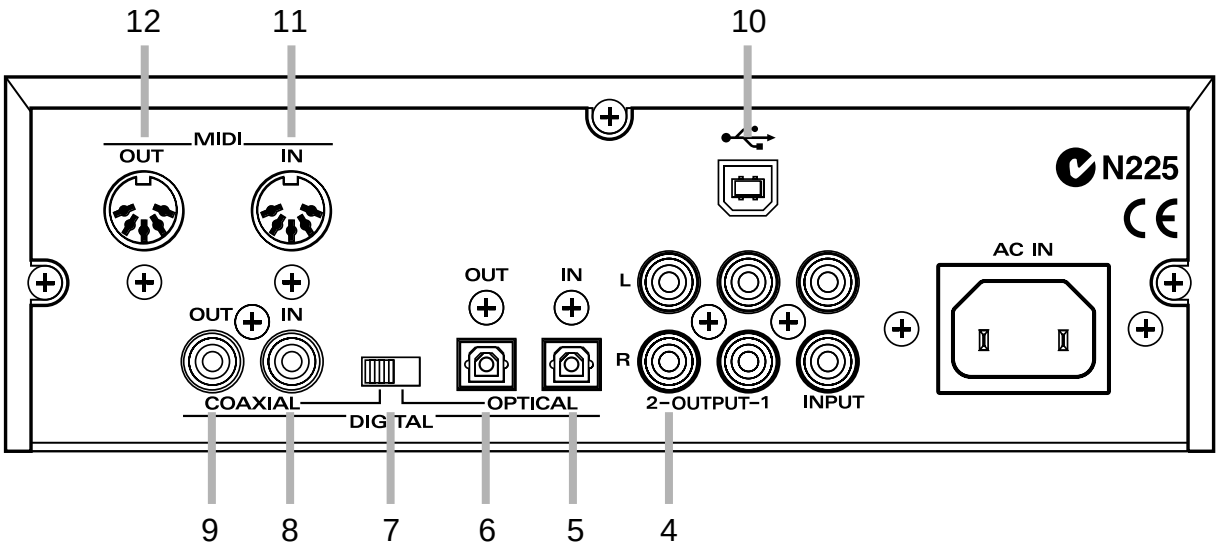
2. Audio Input Jacks

Connect to these jacks when you wish to input audio signals from another MIDI sound generator, or an audio device (LINE OUT) such as a CD player.

3. Audio Output 1 Jacks

Connect to these jacks when you wish to output audio signals to an audio device or amplifier speakers. These jacks will always output **DIGITAL** and **INST+WAVE**, regardless of the recording source selection. The output level of these jack is adjusted by the **VOLUME knob**.





4. Audio Output 2 Jacks

As with the **audio output 1 jacks**, these jacks always output **DIGITAL** and **INST+WAVE** regardless of the recording source selection. The output level of these jacks is not affected by the **VOLUME knob**.

5. Digital Input Connector (Optical)

Connect an optical cable here if you wish to input a digital audio signal from an audio device such as CD / MD / DAT.

6. Digital Output Connector (Optical)

Connect an optical cable here if you wish to output a digital audio signal to a digital recorder such as an MD or DAT.

7. Digital Input/Output Select Switch

When using the digital input / output connectors, this switch selects whether to use optical or coaxial. It is not possible to use optical and coaxial simultaneously.

8. Digital Input Connector (Coaxial)

Connect a coaxial cable here if you wish to input a digital audio signal from an audio device such as CD / MD / DAT.

9. Digital Output Connector (Coaxial)

Connect a coaxial cable here if you wish to output a digital audio signal to a digital recorder such as an MD or DAT.

10. USB Connector

The SC-D70 can be connected to your computer via a USB cable to transfer audio data and MIDI data. This connector will function when the SC-D70 is in **USB mode**.

11. MIDI IN Connector

MIDI messages received from another MIDI device will be sent to the computer in **USB mode**, or to the internal sound generator in **MIDI mode**. For details refer to **USB mode and MIDI mode** (p. 39).

12. MIDI OUT Connector

This connector transmits MIDI messages to other MIDI devices.

Recording

Simply by using a single USB cable to connect the SC-D70 to your computer, you will be able to play back, record, and mix MIDI data and audio data.

By using the SC-D70, you can listen to the backing (accompaniment) of MIDI data or audio data digitally loaded from a CD, and sing into a microphone or play your guitar to add the melody. Your performance can also be digitally recorded on your computer or on a digital audio device such as an MD. And you can even create an original CD by using CD-R.

The explanation in this chapter assumes that you are using a sequencing program that has MIDI / audio recording functionality. Before you continue, install your sequencing program and make the necessary settings.

For details on installing, setting up, and operating your sequencer software, refer to the manual for your sequencer software.

About copyright

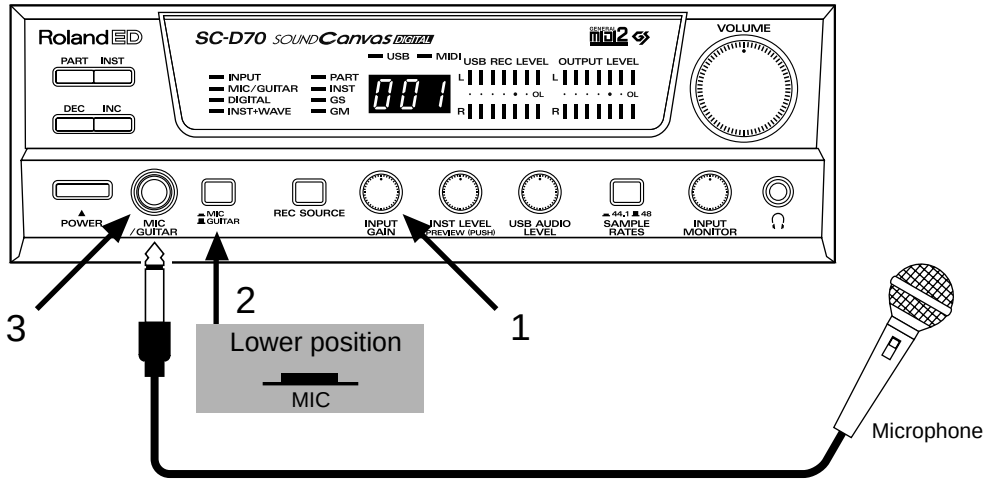
Recording, distribution, sale, lending, public performance, or broadcast in part or in whole of material (musical compositions, film, broadcasts, performances, etc.) created by a third party is forbidden by law unless permission is obtained from the copyright holder.
Do not use this device for purposes that may infringe the copyrights of a third party. Roland Corporation accepts no responsibility for any copyright infringements that you may perform while using this device.

Use of the song data supplied with this product for any purpose other than private, personal enjoyment without the permission of the copyright holder is prohibited by law. Additionally, this data must not be copied, nor used in a secondary copyrighted work without the permission of the copyright holder.

Connecting a microphone/guitar

The SC-D70 has an input jack that lets you connect a microphone for recording vocals or acoustic instruments, or connect an electric guitar. Here we will explain how to connect a microphone or guitar to the SC-D70, and record it on your sequencer software.

Connecting a microphone



1. Before you connect a microphone to the SC-D70, lower the level of the **audio input gain knob**. If your microphone has a switch, turn the switch **off**.
2. Press the **mic/guitar gain select switch** inward to select the **MIC** position.
3. Connect your microphone to the SC-D70's mic/guitar input jack.

NOTE

Howling could be produced depending on the location of microphones relative to speakers. This can be remedied by:

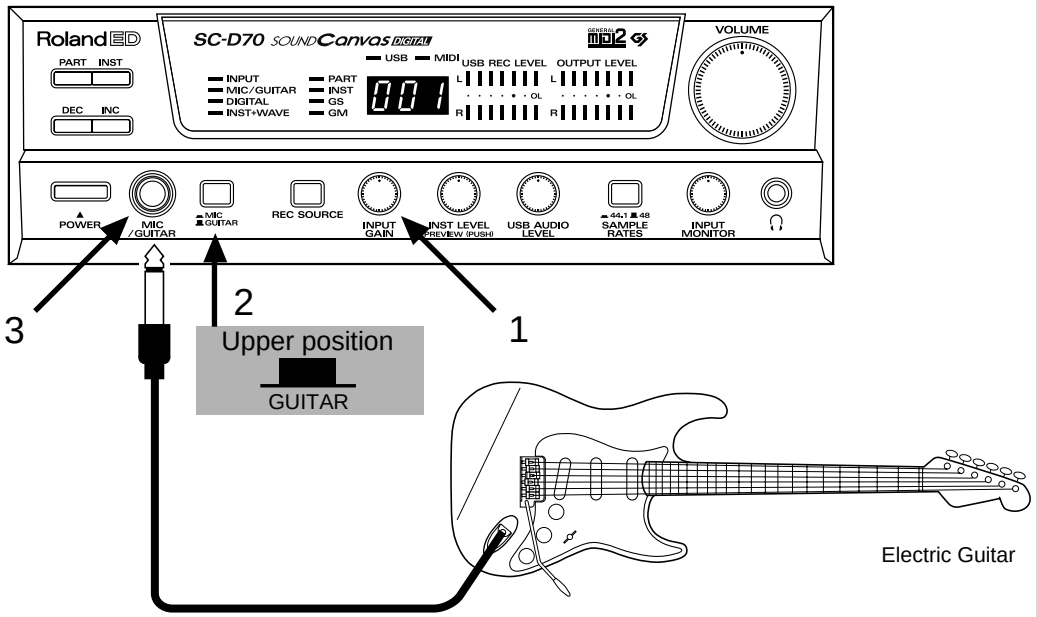
1. Changing the orientation of the microphone(s).
2. Relocating microphone(s) at a greater distance from speakers.
3. Lowering volume levels.

Your microphone is now connected. To connect your audio equipment, proceed to **Connecting audio equipment** (p. 18). To begin recording, proceed to **Selecting the recording source** (p. 21).

MEMO

If the **mic/guitar gain select switch** is in the GUITAR position when you are inputting from a microphone, the sound will be input at too low a level, since this setting is for the relatively louder input from a guitar.

Connecting a guitar



1. Before you connect a guitar to the SC-D70, lower the level of the **audio input gain knob**.
2. Put the **mic/guitar gain select switch** in the outward position to select **GUITAR**.
3. Connect your guitar to the mic / guitar input jack of the SC-D70.

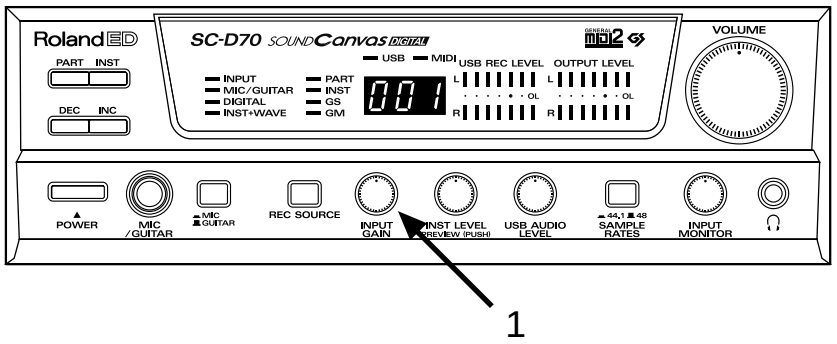
Your guitar is now connected. If you wish to connect audio equipment, proceed to **Connecting audio equipment** (p. 18). If you wish to begin recording, proceed to **Selecting the recording source** (p. 21).

Connecting audio equipment

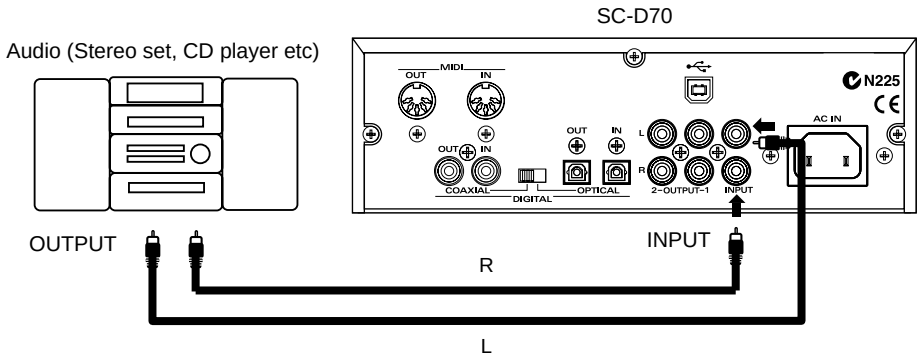
Using the SC-D70, not only microphone or guitar, but also the output from a MIDI sound generator or audio device can be recorded via the audio input jacks or digital input connector into your computer.

Here we will record stereo audio data (e.g., from the output of an audio device) into your sequencer software.

Making connections to the audio input jacks



1. Before you connect an audio device to the SC-D70, lower the level of the **audio input gain knob**.
2. Connect the audio input jacks of the SC-D70 to the audio outputs of another audio device (e.g., stereo set or CD player).

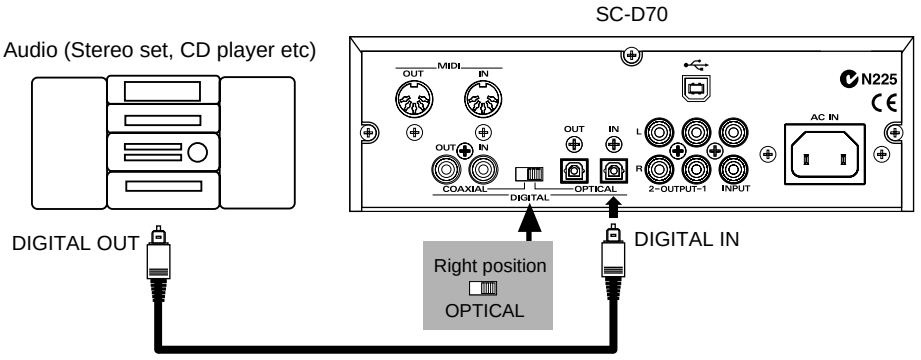


Making connections to the digital input connectors

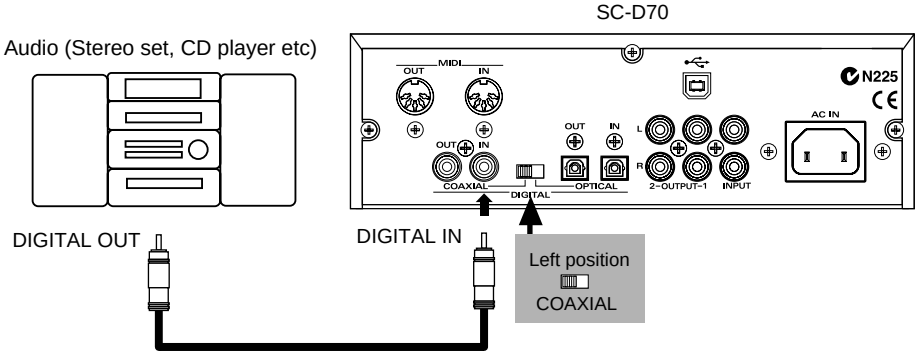
1. Before you connect an audio device to the SC-D70, lower the level of the **VOLUME knob**.
2. As appropriate for the digital input connector that you wish to use, set the **digital input/output select switch** to **COAXIAL** or **OPTICAL**.

3. Connect the SC-D70's digital input connector to the digital output connector of the other audio device.

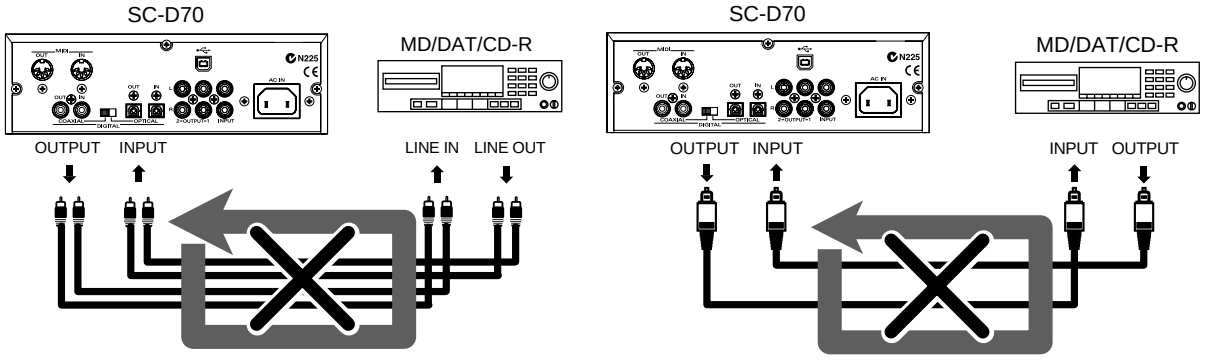
When using the OPTICAL connector



When using the COAXIAL connector



Watch out for loop connections



Example of an Analog Loop Connection

Example of a Digital Loop Connection

If you connect the SC-D70 as shown in the above diagram with another device that passes the input audio back to the output (e.g., a MD / DAT / CD-R in recording mode), the sound will loop between the SC-D70 and the other device, causing oscillation and producing an unexpected high volume. Be aware that such connections can cause malfunctions or damage your speakers. Aside from the situation shown in the above diagram, make sure that the connections are not causing one of the following situations.

- Is there a loop between analog and digital?
- Has a loop connection resulted from signals passing through a mixer or other device?

Turning on the Power

Once the connections have been completed (p. 18), turn on power to your various devices in the order specified. By turning on devices in the wrong order, you risk causing malfunction and / or damage to speakers and other devices.

1. Confirm that the power to all connected devices is turned off.
2. Turn down the volume on the SC-D70 and connected devices.
3. Press the SC-D70's POWER switch to turn on the power.
4. Turn on the power of the connected devices.
5. Adjust the volume of the SC-D70 and connected devices to appropriate levels.

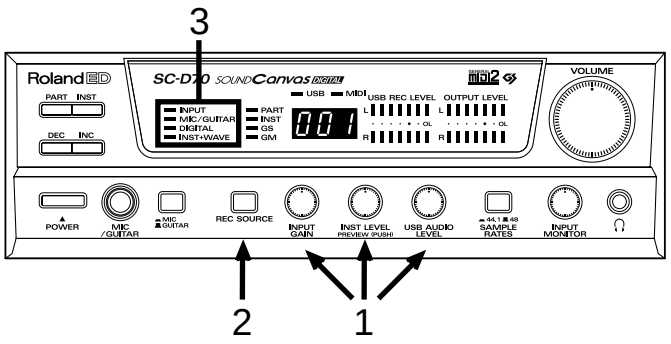
NOTE

This unit is equipped with a protection circuit. A brief interval (a few seconds) after power up is required before the unit will operate normally.

Selecting the recording source

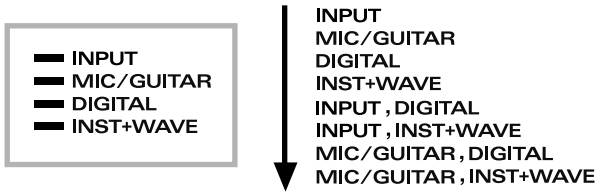
In order to record audio data on your sequencer software, you must select the data (recording source) that is sent from the SC-D70 via USB to your computer.

To select the recording source, use the following procedure.



1. Before you select the recording source, lower the levels of the **audio input gain knob**, **sound generator level knob**, and **USB audio level knob**. If an audio device is digitally connected, stop playback on that audio device.

2. When you press the **recording source select button**, the recording source indicators will light in the following combinations. Pressing the button eight times will take you through all of the possible combinations.



Refer to the table on the following page for the correspondence between the indicators that light and the input jacks.

3. Press the **recording source select button** enough times to get the desired recording source indicators to light.

NOTE

The **audio output jacks**, **digital output connectors**, and **headphone jack** will always output **DIGITAL** and **INST+WAVE**, regardless of the recording source selection.

MEMO

The SC-D70 lets you simultaneously select up to two recording sources.

NOTE

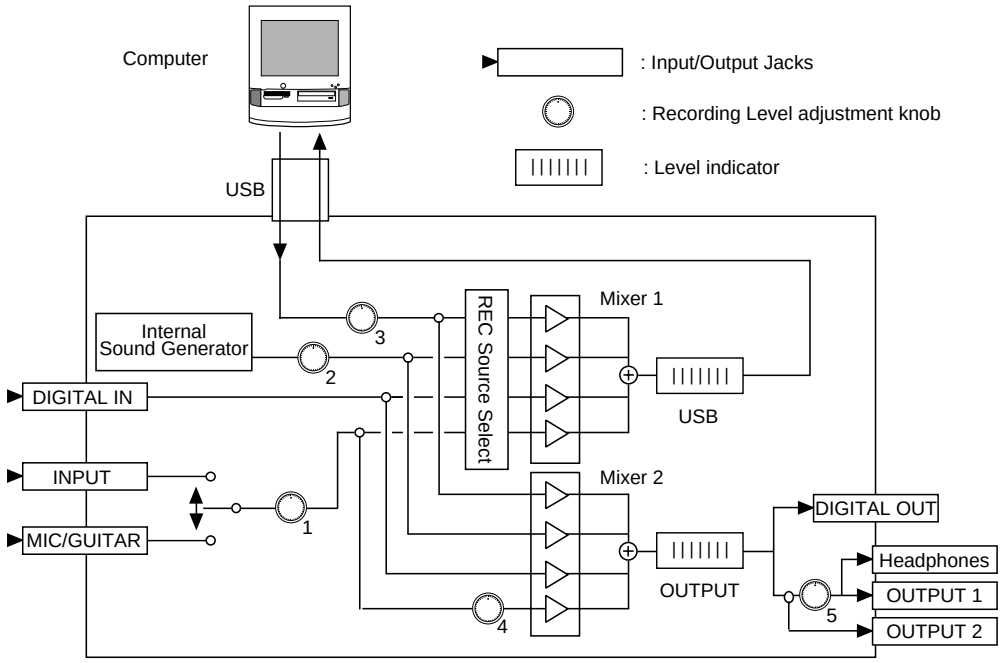
It is not possible to select **INPUT** and **MIC/GUITAR** simultaneously.

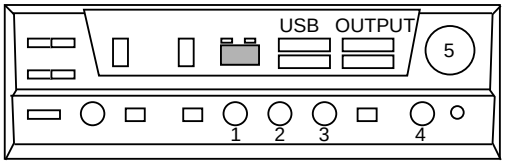
Adjusting the recording level

Before you actually record, you must adjust the recording level from each recording source.

■ The structure of the internal mixer

The internal mixer structure of the SC-D70 is as shown below.





The recording level of the input source and the knob that adjusts it are related as follows.

Input source	Recording level adjustment knob	Sound generator indicator that lights when source is selected
SC-D70 internal sound generator	2: Sound generator level knob	INST+WAVE
Audio data from computer (USB)	3: USB audio level knob	INST+WAVE
Audio input jacks	1: Audio input gain knob	INPUT
Digital input connector	-	DIGITAL
Mic / guitar input jack	1: Audio input gain knob	MIC / GUITAR

NOTE

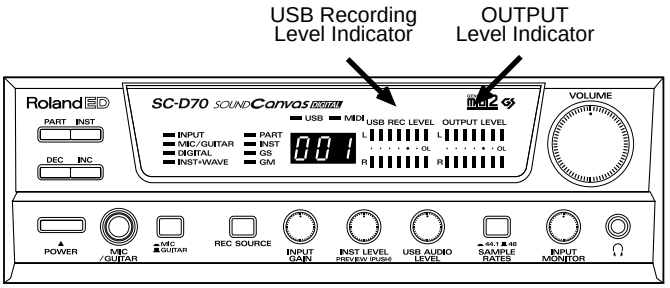
It is not possible to adjust the input level of the digital input connectors.

While actually sounding the recording source (i.e., talking or singing into the microphone, or playing your guitar), operate the appropriate knob to adjust the recording level.

If the USB recording level indicator lights all the way to the red segment, the input level is too high. Use the appropriate knob to adjust the level so that the USB recording level indicator goes as high as possible but without causing the red segment to light.

■ About the level indicators

The SC-D70 has two level indicators: the **USB recording level indicator** and the **OUTPUT level indicator**.



USB recording level indicator

This shows the output level of the audio signal that is output via USB to the computer. This is the level at which the selected recording source is mixed. When recording on your computer, watch this indicator as you adjust the recording level.

OUTPUT level indicator

This shows the output level of the audio signal that is output from the audio output 2 jacks and the digital output connectors. Regardless of the recording source selection, this will be the combined level of all recording sources. When recording on an external audio device such as a stereo set or MD, watch this indicator as you adjust the recording level.

NOTE

If you use the output from the headphones or audio output jacks to adjust the recording level, it may be different than the level actually recorded on your PC, depending on the position of the **audio input monitor level knob**.

MEMO

The output level of the audio signal from the audio output 1 jacks and headphone jack is adjusted by the **VOLUME knob**.

Recording audio data

Here we will explain how to use your sequencer software (e.g., Cakewalk) to record audio data from various recording sources into your computer.
The audio data that is input to the SC-D70 will be sent via USB to your computer.
The level of this signal can be monitored in the **USB recording level indicator**.

1. Start up your sequencer software, and open (create) a new song.
2. In your sequencer software, select **Roland SC-D70 Wave** as the port for the track to be recorded.
3. On your sequencer software, select the track to be recorded.
4. Press the SC-D70's **recording source select button** to select the source that you wish to record. (p. 21)
5. As described in **Adjusting the recording level** (p. 22), adjust the recording level.
6. Rewind to the beginning of the song, and start recording. When you finish recording, stop. Rewind to the beginning of the song, and listen to the data that was recorded.

If you are using sequencer software such as Cakewalk, and have selected the track source as Left 1:Roland SC-D70 Wave (or Right 1:Roland SC-D70 Wave), the sound will play back panned to far left (or right). To place the sound in the center, make adjustments on your sequencer software to move the track pan to the center. If you are using Cakewalk, click the pan field and enter "64."

NOTE

If you are unable to select **Roland SC-D70 Wave** as the port for the track to be recorded, the SC-D70 has not been specified correctly as the audio device for your sequencer software. For details on making audio device settings, refer to the manual of your sequencer software.

Monitoring the backing while you record new parts

Since the SC-D70 lets you connect a microphone or guitar, and also contains a MIDI sound generator, it is possible to input sounds from many types of instruments into your computer. This section will explain how you can successively record audio tracks into your sequencer software.

Here we will explain how to monitor the existing sequence data as the backing (accompaniment) while you record new material onto other audio tracks.

1. Start up your sequencer software, and open the sequence data that you wish to play as backing.
2. On your sequencer software, set the audio port for playback to **Roland SC-D70 Wave**, and set the audio port for recording to **Roland SC-D70 Wave**.
3. On the sequencer software, select the track that you wish to record.
4. Press the SC-D70's **recording source select button** to select the source that you wish to record. (p. 21)
5. Adjust the recording level as described in **Adjusting the recording level** (p. 22).
6. You can monitor the backing by listening to the output from the audio output jacks, digital output connectors, or headphone jack.

   If the recording source is **INPUT** or **MIC/GUITAR**, and you wish to raise the backing monitor volume so that it is louder than the source monitor volume, turn the **audio input monitor level knob** toward the left to decrease the monitor volume of the recording source.

7. Rewind to the beginning of the song, and start recording. When you are finished recording, stop. Rewind to the beginning of the song, and play back to hear the data that you recorded.

If you are unable to select **Roland SC-D70 Wave** as the port for the playback or recording tracks, the SC-D70 has not been specified correctly as the audio device for the sequencer software. For details on how to make audio device settings, refer to the manual for your sequencer software.

The **audio input monitor level knob** adjusts only the **INPUT** and **MIC/GUITAR** recording sources.

The **audio input monitor level knob** only adjusts the monitor volume, and does not affect the level that is actually recorded on your computer.

Mixdown the sound of the sound generator

Here's how to use your MIDI / audio sequencer software to mixdown MIDI tracks and audio tracks.

MEMO What is mixdown?

Mixdown is the process by which vocals, guitar, and backing that were recorded on separate tracks are combined into a single stream of **audio data**. During the mixdown, you can adjust the volume and **pan** (left / right balance) of each track, and record the resulting **audio data** on unused tracks.

1. Start up your sequencer software, and open the sequence data that contains the MIDI data and audio data that you wish to mixdown.

2. In your sequencer software, select **Roland SC-D70 PART A** as the port for the MIDI that you wish to play back.

3. In your sequencer software, select **Roland SC-D70 Wave** as the port for the audio that you wish to play.
4. As desired, set your sequencer software to mute any tracks that you do not wish to play back.
5. In your sequencer software, select **Roland SC-D70 Wave** as the port for the track(s) to be recorded.
6. In your sequencer software, select the track(s) that you wish to record.
7. Press the SC-D70's **recording source select button** to specify **INST+WAVE** as the recording source. (p. 21)
8. Adjust the recording level as described in **Adjusting the recording level** (p. 22).
9. Rewind to the beginning of the song, and start recording. When you finish recording, stop. Rewind to the beginning of the song, and play back to hear the recorded data.

MEMO
The included CD-ROM contains demo songs that are examples of sequence data with MIDI data and audio data.

MEMO
If the MIDI data exceeds 16 parts, set the other ports to **Roland SC-D70 PART B**.

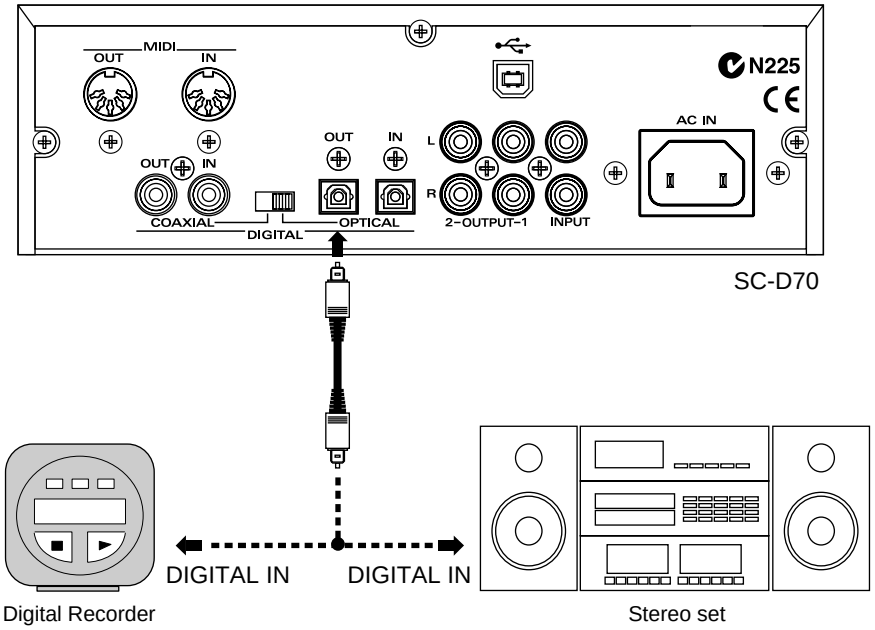
NOTE
If you are unable to select **Roland SC-D70 Wave** as the port for the recording track(s), the SC-D70 has not been specified correctly as an audio device for the sequencer software. For details on how to make audio device settings, refer to the manual of your sequencer software.

Recording the completed song to digital recorder

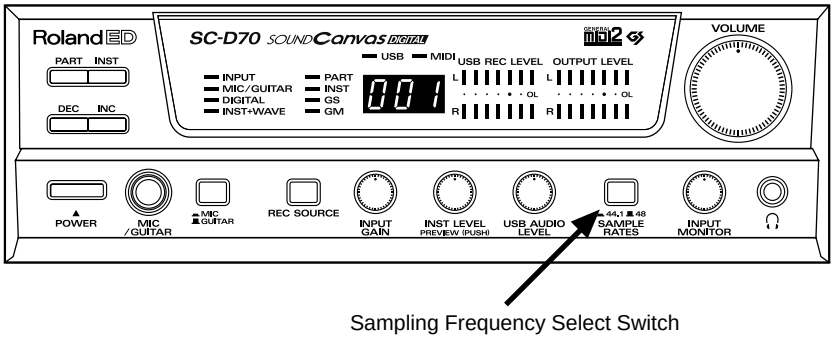
Here's how the song (audio data) that you completed in the preceding section can be passed through the SC-D70 and recorded on a digital recorder such as an MD or DAT.

■ Connecting your digital recorder

Connect your digital recorder (e.g., MD or DAT) to the SC-D70 as shown below.



When you make digital connections with a digital recorder, you must set the SC-D70's sampling frequency to match the sampling frequency of the connected recorder. After setting the **sampling frequency select switch** to the desired sampling frequency, turn on the power of the SC-D70.



NOTE

If the sampling frequency of the output and input are different, the audio quality will be affected. In addition, an excessive burden will be placed on the computer, possibly causing its operation to become unstable.

NOTE

The sampling frequency will not change if you operate the **sampling frequency select switch** while the power of the SC-D70 is turned on.

MEMO

The sampling frequency for MD is 44.1 kHz, and for DAT is 48 kHz.

■ Digital recording

1. Start up your sequencer software, and open the song that you wish to record.
2. In your sequencer software, select **Roland SC-D70** as the port for the audio that you wish to play back.
3. In your sequencer software, rewind to the beginning of the song, and prepare for playback. Start recording on your recorder, and then play back the song on your sequencer software.
4. When the song ends, stop recording on your recorder. Rewind to the beginning of the song, and listen to the recorded data.

■ About the Copyright bit when using digital connections

The copyright bit of the data sent from the digital output connector of the SC-D70 will be the same as the copyright bit that is received at the digital input connector.

When data that you created on the your computer using the SC-D70 is digitally recorded to a digital device such as an MD, it will normally be recorded as copy permitted (data that can be copied one or more times). However, if a device is connected to the digital input connector, the copyright bit will be set according to the copyright bit of the digital audio signal being input from the digital input connector. For this reason, you should not connect anything to the digital input connector unless necessary, or turn off the power of the connected device.

The SC-D70 allows you to record without being restricted by SCMS (Serial Copy Management System) when transferring audio signals with an external device via a digital connection. The SC-D70 is designed solely for music production in which the created work does not infringe on the copyrights of another party, and is therefore designed so that it is not limited by SCMS. Do not use the SC-D70 for any purpose that may infringe the copyrights of a third party. Roland Corporation will accept no responsibility for any copyright infringement that you may perform using this device.

MEMO

The copyright bit is data that prohibits or permits second-generation and subsequent recording over a digital connection to a device that implements SCMS.

NOTE

Even if playback is stopped on a device such as a CD player, the copyright bit may be detected as copy prohibit.

MEMO

Even for purposes of personal enjoyment (private use), circumventing a technical protective measure such as SCMS to create an unauthorized copy of a copyrighted work belonging to a third party is an infringement of the copyright of that party, and is forbidden by law.

NOTE **About SCMS**

"SCMS (Serial Copy Management System)" is a function on consumer digital audio devices such as DAT recorders or MD recorders that protects the rights of the producer by prohibiting second-generation and subsequent copying over a digital connection. When recording via a digital connection to a digital recorder that has this function, SCMS data is recorded along with the digital audio data. Digital audio data that contains this data cannot be recorded again via a digital connection.

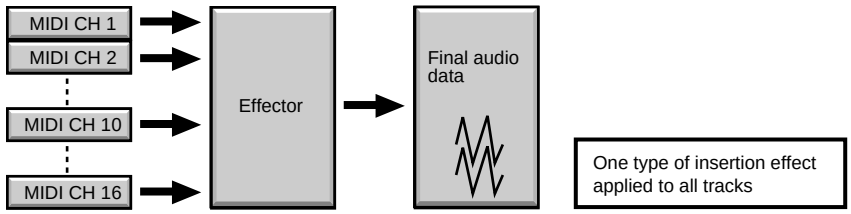
Recording MIDI data on audio tracks

Here's how MIDI data from your computer can be played using the internal sound generator of the SC-D70, and recorded on your computer as audio data.

By recording MIDI data as audio data, you can convert it into MP3 format, or record it on CD-R and listen to it on a CD player.

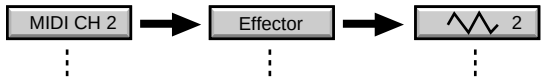
Normally, only a single insertion effect can be used for all tracks of the internal sound generator, but by recording each track individually as audio data and applying a different insertion effect to each, you can effectively use multiple insertion effects to produce a richer and more complex song.

Creation of audio data with one insertion effect applied to all tracks

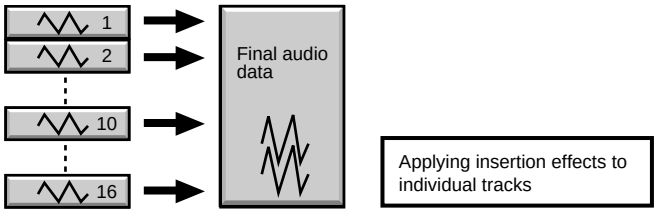


Creation of audio data with one insertion effect applied to one track

Repeat creation of audio data with a different insertion effect applied to another track.



Afterwards sending all the audio data that was made to MIX



MEMO

The "Appendix" of the included CD-ROM contains a list of the insertion effects.

MEMO

When applying effects to the sound of the internal sound generator, it is convenient to use the "GS Advanced Editor" which is contained in the included CD-ROM.

Recording

1. Start up your sequencer software, and open the MIDI data that you wish to play.
2. In your sequencer software, select **Roland SC-D70 PART A** as the port for the MIDI data you wish to play back.
3. As desired, mute tracks of your sequencer software that you do not wish to play back.
4. In your sequencer software, select **Roland SC-D70** as the port for the track to be recorded.
5. In your sequencer software, select the track that you wish to record.
6. Press the SC-D70's **recording source select button** to specify the recording source as **INST+WAVE**. (p. 21)
7. Adjust the recording level as described in **Adjusting the recording level** (p. 22).
8. Rewind to the beginning of the song, and start recording. When you finish recording, stop. Rewind to the beginning of the song, then play it back to hear the recorded data.

MEMO

If there are more than 16 parts of MIDI data, you can also select **Roland SC-D70 PART B**.

NOTE

If you are unable to select **Roland SC-D70 Wave** as the port for the recorded track, the SC-D70 has not been specified correctly as an audio device for the sequencer software. For details on how to make audio device settings, refer to the manual of your sequencer software.

Playing the Internal Sound Generator

About the internal sound generator

The SC-D70 contains a GS / GM2 compatible sound generator equivalent to that of the SC-8820, providing a diverse and high-quality array of 1608 sounds and 63 drum sets. It also has four sound maps, which provide the same sounds as the SC-8820, SC-88 and SC-88Pro, and SC-55 / 55mkII. This allows the SC-D70 to meet a wide range of your sound needs for song creation, and allows it to play back music data created for earlier models.
It also provides a rich assortment of effects processing capability: 64 different insertion effects, 8 kinds of reverb, 8 kinds of chorus, 10 kinds of delay, and a two-band equalizer.

Parts and sounds

The SC-D70 is able to play 32 different sounds simultaneously. (However, only when connected via USB.) A sound generator such as the SC-D70 that is able to play multiple sound simultaneously is referred to as a **multitimbral sound generator**. The term "timbre" means "sound" or "tone." Since 32 different sounds can be produced simultaneously, this means that (if we use the analogy of an orchestra), the SC-D70 can play an ensemble of 32 musical parts. The sound played by each part of the SC-D70 is called an **instrument** (An instrument list is provided on p. 58.) You can create an ensemble by assigning the desired sound to each of the 32 parts.

■ Different types of parts

The SC-D70 has 32 parts, A01–A16 and B01–B16, organized into groups A and B with a number from 01 to 16. Each part can be set either as a **normal part** or as a **drum part**. Normal parts are used to play melody or bass. Drum parts are used to play percussive instruments. The distinction between these two types is called the **part mode**.
By default, the parts are set to the following part modes.
Normal part: A01–A09, A11–A16, B01–B09, B11–B16
Drum part: A10, B10

MEMO
You can change the part mode of each part. For details refer to **Part Mode** ("Appendix" on the accompanying CD-ROM).

■ Which part receives the MIDI IN data?

In MIDI mode (p. 39) when using the MIDI connector to play the SC-D70, group A is assigned to MIDI IN. In other words, the MIDI messages received at MIDI IN are sent to group A parts. For example, a MIDI message received at MIDI IN on channel 5 will play group A part 5 (A05) (at the default settings). When using the MIDI IN connector to play the SC-D70, it is not possible to play group B parts.

MEMO
To change the correspondence between parts and MIDI channels, send the **Rx. CHANNEL** System Exclusive message via MIDI. (Refer to "Appendix" on the accompanying CD-ROM.)

■ Selecting a part

First select a part, and then select the sound for that part.

1. Make sure that the **PART sound generator indicator** is lit.

   If it is not lit, press [PART].
   In this state, the display window will show the part number.

2. Press [INC] or [DEC] to select the part.

   The part indication in the display window will change in the range of A01–A16 and B01–B16.

■ Selecting basic sounds (normal parts)

On the SC-D70, the sounds for a normal part are specified using two numbers: the instrument number and the variation number. The 128 sounds whose variation number is 000 are the basic sounds (capital sounds).

1. Make sure that the **PART sound generator indicator** is lit.

   If it is not lit, press [PART].

2. Press [INC] or [DEC] to select a normal part (a part that is not a drum part).

3. Press [INST], getting the **INST sound generator indicator** to light.

   Now the display window will show the instrument number.

4. Press [DEC] or [INC] to select a sound. Pressing [DEC] will decrement the instrument number, while pressing [INC] will increment the instrument number. You can select an instrument number in the range of 001–128.

MEMO

By default, A10 and B10 are drum parts.

Refer to the **Instrument list** (p. 58) to see the sound to which each instrument number corresponds.

MEMO

Some of the sounds in the SC-D70 may not sound above or below a certain pitch. This is because the sounds have been created with the ranges of actual instruments in mind.

■ Selecting a variation sound (normal part)

Normal parts of the SC-D70 can play the basic **capital sounds**, and **variation sounds** that have a somewhat differing character from the capital sounds. Here's how to select variation sounds.

1. Make sure that the **PART sound generator indicator** is lit.

   If it is not lit, press [PART].

2. Press [INC] or [DEC] to select a normal part (a part other than a drum part).

3. Press [INST], getting the **INST sound generator indicator** to light.

4. Press [DEC] or [INC] to select the instrument number of the desired variation sound.

   Until this point, the procedure has been the same as for selecting basic sounds (capital sounds).

5. Simultaneously press [DEC] and [INC]. The **INST sound generator indicator** will blink.

   In this state, the display window will show the variation number.

6. Press [DEC] or [INC] to select a variation sound.

MEMO

When you press [INST] to change the instrument number, the variation sound for that number will be selected.

MEMO

To return to the capital sound from the state where the **INST sound generator indicator** is blinking, go back to variation number 000 and then press [INST] to select the sound.

How to read the Instrument List

The sounds (instruments) in the SC-D70 are listed in the **Instrument list** (p. 58). When you specify a sound, two numbers are used: the **instrument number** and the **variation number**. Sounds with a variation number of 000 are capital sounds, and those with a number other than 000 are variation sounds.
The **Instrument list** shows the instrument number, the variation number, and the name of the sound.

MEMO
A detailed instrument list is provided in the "Appendix" on the accompanying CD-ROM.

< Example >

CC00	PC	SC-8820 Map	Voices		SC-88Pro Map	Voices		SC-88 Map	Voices		SC-55 Map	Voices
000	**093**	**Bowed Glass**	**2**	**[Pro]**	**Bowed Glass**	**2**	**[88]**	**Bowed Glass**	**2**	**[55]**	**Bowed Glass**	**2**
001		SoftBellPad	2	[Pro]	SoftBellPad	2		-----	2		-----	
002		JP8 Sqr Pad	2	[Pro]	JP8 Sqr Pad	2		-----	2		-----	
003		7thBelPad	2	[Pro]	7thBelPad	2		-----	2		-----	
004		Steel Glass	2		-----			-----			-----	
005		Bottle Stack	2		-----			-----			-----	

CC00 column	Variation number (value of controller number 0) Capital sounds with variation number 000 are in boldface.
PC column	Instrument number (program number)
SC-8820 Map	SC-8820 map sounds (see p. 58)
SC-88Pro Map	SC-88Pro map sounds (see "Appendix" of accompanying CD-ROM")
SC-88 Map	SC-88 map sounds (see "Appendix" of accompanying CD-ROM)
SC-55 Map	SC-55 map sounds (see "Appendix" of accompanying CD-ROM)
—	No sound exists for this variation number.
Voices	Number of voices used by this instrument

Symbol following the sound name

:	Legato sound
[Pro]	Same sound as SC-88Pro map
[88]	Same sound as SC-88 map
[55]	Same sound as SC-55 map
+	Percussion sounds or sound effects, not playable as pitches

MEMO
For details on legato sounds, refer to **About legato sounds** (p. 38).

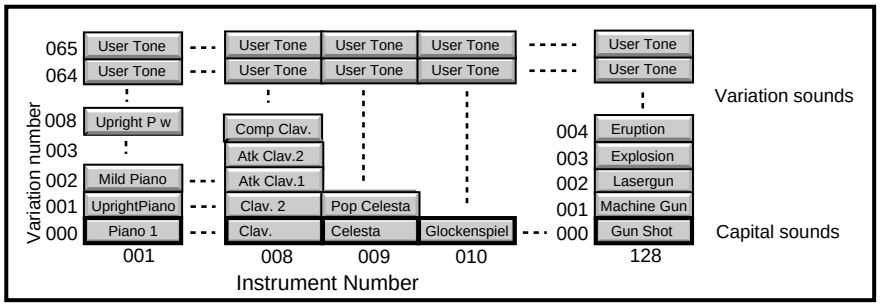
MEMO
For details on voices, refer to **How polyphony and voices are related** (p. 38).

■ Using MIDI messages to switch sounds from another device or sequencer software

By sending MIDI messages from sequencer software that is running on your computer, you can specify the sound (instrument) for each of the SC-D70's parts. Sounds are specified by **variation number** and **instrument number** (p. 33). However, you should be aware that the way in which numbers are displayed may differ depending on your software. On the SC-D70, variation numbers begin from **0**, and instrument numbers begin from **1**.

The variation number corresponds to the **MIDI bank number**, and the instrument number corresponds to the **MIDI program number**.

SC-8820 Map



MIDI messages for actual transmission

If you will be entering MIDI messages into sequencer software on your computer and transmitting them, send them in the order described below.

[1] Control change 0 value: MIDI bank number upper byte (variation number)

[2] Control change 32 value: MIDI bank number lower byte
0: use the INST MAP setting,
1: SC-55 map,
2: SC-88 map,
3: SC-88Pro map,
4: SC-8820 map)

* *This is explained in detail in the subsequent section* ***About the Bank Select least significant byte (LSB)***

[3] Program change value: MIDI program number (instrument number -1)

[1] and [2] are the Bank Select messages. Bank Select messages are a type of Control Change message. The processing of a Bank Select message is suspended until a Program Change is received.

For example, if you wish to select the sound of variation number 8 instrument number 3 (Piano3 w), transmit the following data to the SC-D70. (Listed here in decimal notation.)

[1] Control change 0 value: 008
(bank number upper byte = variation number: 8)

[2] Control change 32 value: 0

[3] Program change value: 002
program number = instrument number -1: 3-1)

MEMO

The **MIDI bank number** consists of a "Most Significant Byte" (MSB) and a "Least Significant Byte" (LSB). Since each can have a value of 0–127, a total of 128 x 128 = 16384 banks can be specified. The most significant byte of the bank number corresponds to the variation number of the SC-D70. The least significant byte of the bank number is used to switch between the SC-55 map / SC-88 map / SC-88Pro / SC-8820 map. (MIDI Implementation in the accompanying CD-ROM "Appendix")

MEMO

If you specify a sound number that does not exist on the SC-D70, the sound will not change. Please select sounds that are listed in the **Instrument list** (p. 58).

MEMO

For more about Control Change messages, refer to the "Appendix" on the accompanying CD-ROM.

NOTE

The data actually transmitted as the Program Change will be one less than the program number.

About the Bank Select least significant byte (LSB)

On the SC-D70, the least significant byte (LSB) of the Bank Select message is processed as follows.

Lower byte (LSB)	
0	Use the **INST MAP** setting of the SC-D70.
1	Select the SC-55 map.
2	Select the SC-88 map.
3	Select the SC-88Pro map.
4	Select the SC-8820 map.

MEMO

For more about Bank Select messages, refer to the "Appendix" on the accompanying CD-ROM.

Operation via MIDI

Here's how you can switch the sound of a part via MIDI.

< Example > Change the sound of part 2 to 017 Organ1 (variation 000) of the SC-88 map

MIDI CH =	02	
CC#00	000	...select variation number 000
CC#32	002	...select the SC-88 map
PC#	016	...select instrument number 017

Operation via MIDI

Here's how to change the variation of the sound of a part via MIDI.

< Example > Change the sound of part 1 to 005 Dist E.Piano (variation 017) of the SC-8820 map

MIDI CH =	01	
CC#00	017	...select variation number 017
CC#32	004	...select the SC-8820 map
PC#	004	...select instrument number 005

Operation via MIDI

Here's how to change the map and variation for the sound of a part via MIDI.

< Example > Change the sound of part 3 to 039 Acid Bass (variation 008) of the SC-88Pro map

MIDI CH =	03	
CC#00	008	...select variation number 008
CC#32	003	...select the SC-88Pro map
PC#	038	...select instrument number 039

■ Selecting a drum set (drum part)

Sounds are selected differently on a drum part than on a normal part.
The sounds of a drum set are assigned to individual notes of the keyboard. When you select a drum part and play the keyboard, a different sound will be heard for each key. This is because it is not necessary to specify the pitch of a drum sound when you play it.
Drum sets can be switched in the same way as when switching capital sounds for a normal part. Variation numbers are not used for a drum part.

1. Make sure that the **PART sound generator indicator** is lit.

   If it is not lit, press [PART].

2. Press [INC] or [DEC] to select a drum part.

   By default, part 10 (A10, B10) is a drum part.

3. Press [INST], getting the **INST sound generator indicator** to light.

4. Press [DEC] or [INC] to select a drum set. Pressing [DEC] will decrement the drum set number, while pressing [INC] will increment it.

To see the drum sets that are available, refer to **Drum set list** (in the "Appendix" of the accompanying CD-ROM).

How to read the Drum set list

Drum sounds (drum instruments) are assigned to each key of the drum set.
The drum sets of the SC-D70 are listed in the **Drum set list** (p. 64), with each drum set given by number and name. Following this, the SC-8820 drum set sounds are listed by number and name.

< Example >

		PC1 STANDARD 1		PC2 STANDARD 2	PC3 STANDARD 3
	22	MC-500 Beep 1		<-	<-
	23	MC-500 Beep 2		<-	<-
C1	24	Concert SD		<-	<-
	25	Snare Roll		<-	<-
	26	Finger Snap 2		Finger Snap	<-
	27	High Q		<-	<-
	28	Slap		<-	<-
	29	Scratch Push	[EXC7]	<-	<-
	30	Scratch Pull	[EXC7]	<-	<-
	31	Sticks		<-	<-
	32	Square Click		<-	<-
	33	Metronome Click		<-	<-
	34	Metronome Bell		<-	<-
	35	Standard 1 Kick 2	*	Standard 2 Kick 2	[RND] Standard Kick 2

PC	Drum set number (program number)
Keyboard area	Note number
<-	Same as the standard set 1 (PC1) percussion instrument sound.
—	No percussion instrument sound exists for that note number.
[Pro]	Same as the SC-88Pro percussion instrument sound.
[88]	Same as the SC-88 percussion instrument sound.
[55]	Same as the SC-55 percussion instrument sound.
[EXC]	Will not play simultaneously with another percussion instrument sound of the same number. (Example: In the above diagram, **29:Scratch Push** and **30:Scratch Pull** are both [EXC7] sounds, and cannot sound simultaneously.)
*	Percussion instrument sound that uses two voices

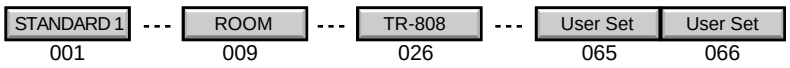
MEMO

A detailed drum set list is given in the "Appendix" of the accompanying CD-ROM.

■ Using MIDI messages to switch drum sets from another device or sequencer software

In the same way as for instruments, you can transmit MIDI messages from your sequencer software to select drum sets. The drum set will switch when the Program Change message is received. Transmit the Program Change message on the same channel as the MIDI receive channel of the drum part. With the default settings, part 10 is the drum part (MIDI receive channel: 10). On the SC-D70, the drum set number corresponds to the program number.
Set the note numbers of the rhythm data to be played so that they match the note numbers of the drum set you are using.

Drum Set name and Drum Set number (Program number)



Operation via MIDI

Switching the drum set via MIDI

< Example > Setting the sound of part 10 to 031 TR-909 of the SC-8820 map

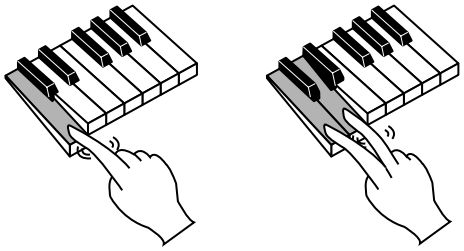
MIDI CH =	10	
CC#00	000	...select variation number 000
CC#16	4	...select the SC-8820 map
PC#	030	...select drum set number 031

■ Setting the SC-D70 to the same sounds as the SC-88Pro/SC-88/SC-55

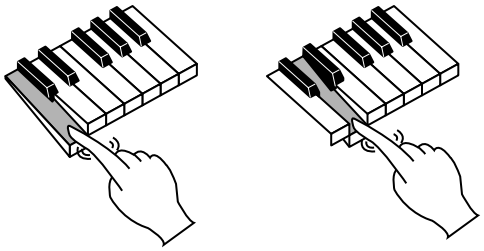
The SC-D70 has four sound maps: the SC-8820 sounds are provided by the SC-8820 map, the SC-88Pro sounds by the SC-88Pro map, the SC-88 sounds by the SC-88 map, and essentially the same sounds as the SC-55 / SC-55mkII by the SC-55 map.
To use the same sounds as the SC-88Pro / SC-88 / SC-55, you can switch the map via MIDI.
For details refer to **About the Bank Select least significant byte (LSB)** (p. 35).

■ About legato sounds

The SC-D70 contains certain "legato" sounds that are ideal for legato playing, allowing you to realistically simulate a performance of that instrument. For example, on a stringed instrument, an attack is heard when the player begins to move the bow, but the sound will continue smoothly as long as the bow continues to move, and no new attack is heard. Legato sounds simulate this sense of attack by turning specific voices within the instrument on / off according to how you play the keyboard.
Try playing one of these instruments.
Press a key, and then press another key without releasing that key. The first note you played will have a sense of attack, but the second will be connected smoothly without an attack.



If you wish to produce an attack, release all the keys before playing the next key.



MEMO

It is not possible to turn the legato function on / off for an instrument. You must select an instrument appropriate for your purposes.

How polyphony and voices are related

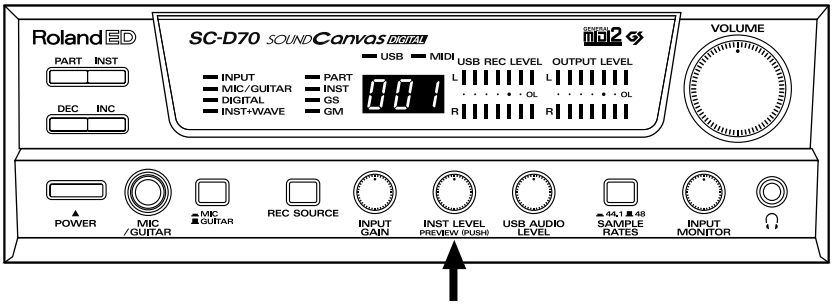
The sounds of the SC-D70 consist of units called **voices**. The number of these voices is limited, and the SC-D70 is able to use 64 voices simultaneously. Some sounds (instruments) use one voice, and others use two voices (**Instrument List** p. 58). The main reasons for a sound to use two voices are so that tonal changes can be simulated appropriately for different velocity values, or to layer multiple sounds to produce a richer tone.
When the number of voices used exceeds 64 on the SC-D70, priority is given to the later-played notes, and currently sounding notes will be turned off, starting from the oldest note. If you use only one-voice sounds, you will be able to play 64 notes simultaneously. However, if you use some two-voice sounds, the polyphony will be less than 64. Even after MIDI note-off ("Appendix" on the accompanying CD-ROM) is received, a voice is still being used until the sound has completely disappeared. Be aware of this particularly when using sounds with a long release time.

MEMO

If song data created with 64 voice polyphony in mind is played on a sound generator that has less polyphony, notes may drop out, and the result may be not what you expect. The SC-8850 has 128 voices, the SC-D70, SC-8820, SC-88Pro, and SC-88 have 64 voices, the SC-55 has 24 voices, and the SC-55mkII has 28 voices.

USB mode and MIDI mode

The SC-D70 has two modes: **USB mode** and **MIDI mode**.
Normally, the SC-D70 will start up in **USB mode** when you turn on the power. If you wish to start up the SC-D70 in **MIDI mode**, push and hold in the **INST LEVEL/ PREVIEW** switch, and turn on the power.

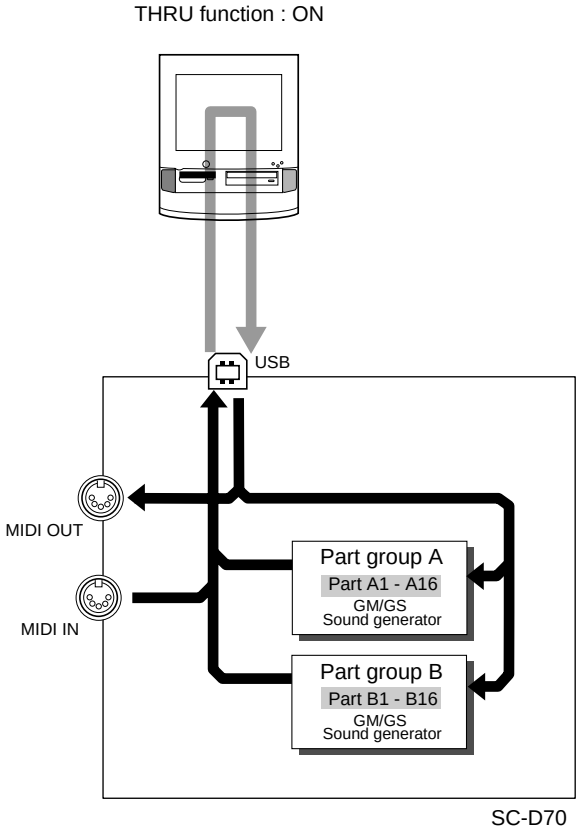


Sound Generator Level Knob / Preview Switch

Depending on the mode, the flow of MIDI data will be as shown in the following diagram.

In USB mode

MIDI data that is input from MIDI IN will not be passed to the sound generator, but will be sent through the USB connector to the computer.



MEMO

The number of sound generator parts that can be controlled via the USB connector will depend on the software that you use. This means that even though you use the USB connector, you may not necessarily be able to play 32 parts. Carefully read the owner's manual for your software.

About the "Thru function" of your software

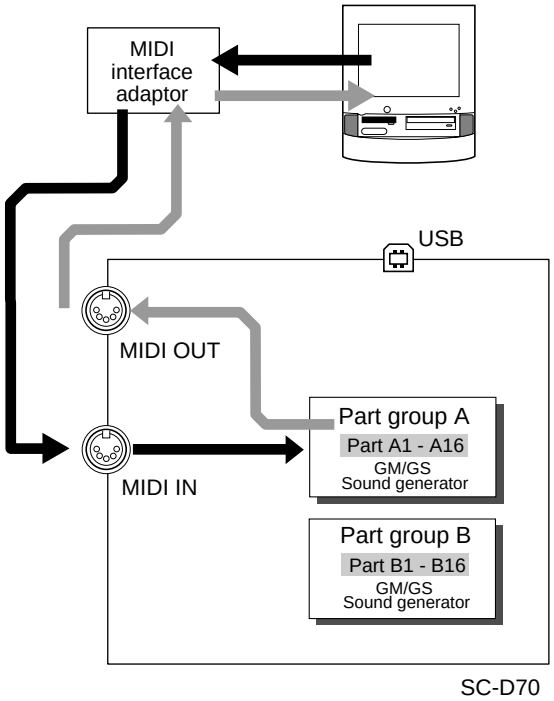
In order for data received at MIDI IN to be passed to the sound generator section in USB mode, the Thru function must be turned On for the software running on the computer that is connected to the SC-D70's USB connector. If the Thru function is turned on, data received at MIDI IN will pass through the computer and be sent to the sound generator section, causing sound to be produced.

MEMO

For details about how to turn on the Thru function, refer to the owner's manual for your software.

In MIDI mode

MIDI data that is input from MIDI IN will be passed directly to the sound generator.



Appendix

Troubleshooting

If the SC-D70 does not function as you expect, check the following points first. If this does not resolve the problem, contact your dealer or a Roland service station.

Power does not turn on

- **Is the power cable of the SC-D70 correctly connected to an outlet and to the rear panel AC IN?**

The volume level of the instrument connected to Audio output/input jacks is too low

- **Could you be using a connection cable that contains a resistor?**

Use a connection cable that does not contain a resistor.

- **Some audio playback devices are furnished with higi-resistance cables.**

If you use this type of cable,the playback volume may be low. Please use cables without resistors.

A specific part does not sound

- **The part level may have been lowered.**
- **Does the MIDI receive channel of the part match the MIDI transmit channel of the connected MIDI device?** (p. 47)

Part level → "Appendix" in the accompanying CD-ROM

Some parts do not sound when you press the preview switch.

- **The part level may have been lowered.**

Specific pitch ranges do not sound

- **You may have made keyboard range settings.**

Keyboard range → "Appendix" in the accompanying CD-ROM

Can't switch to the desired sound

- **You may be transmitting a Program Change number that the SC-D70 does not support**

Refer to the "Appendix" in the accompanying CD-ROM for a list of sounds that the SC-D70 supports.

- **You may have specified the SC-55 map, SC-88 map, or SC-88Pro map.** (p. 37)

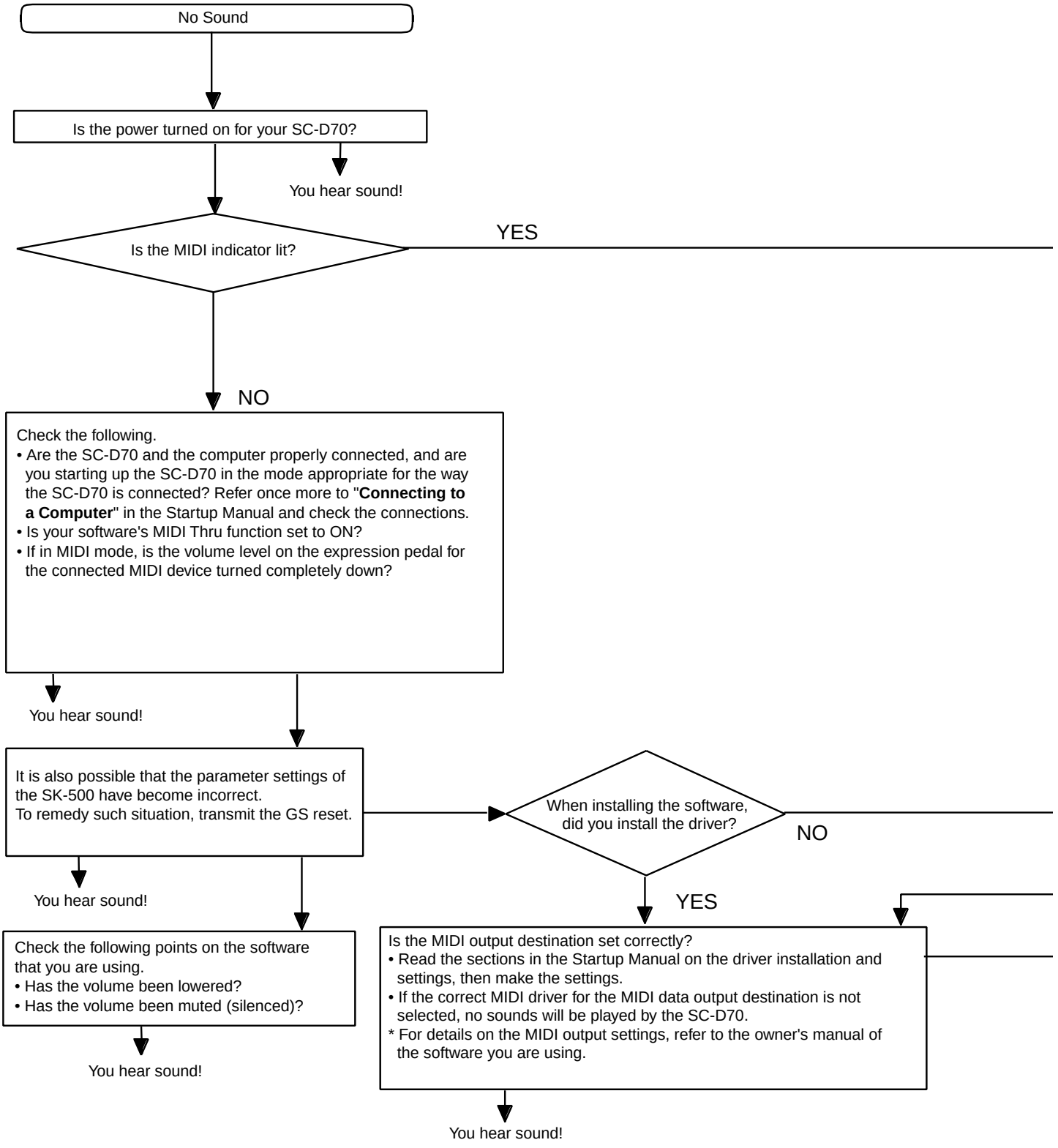
No sound

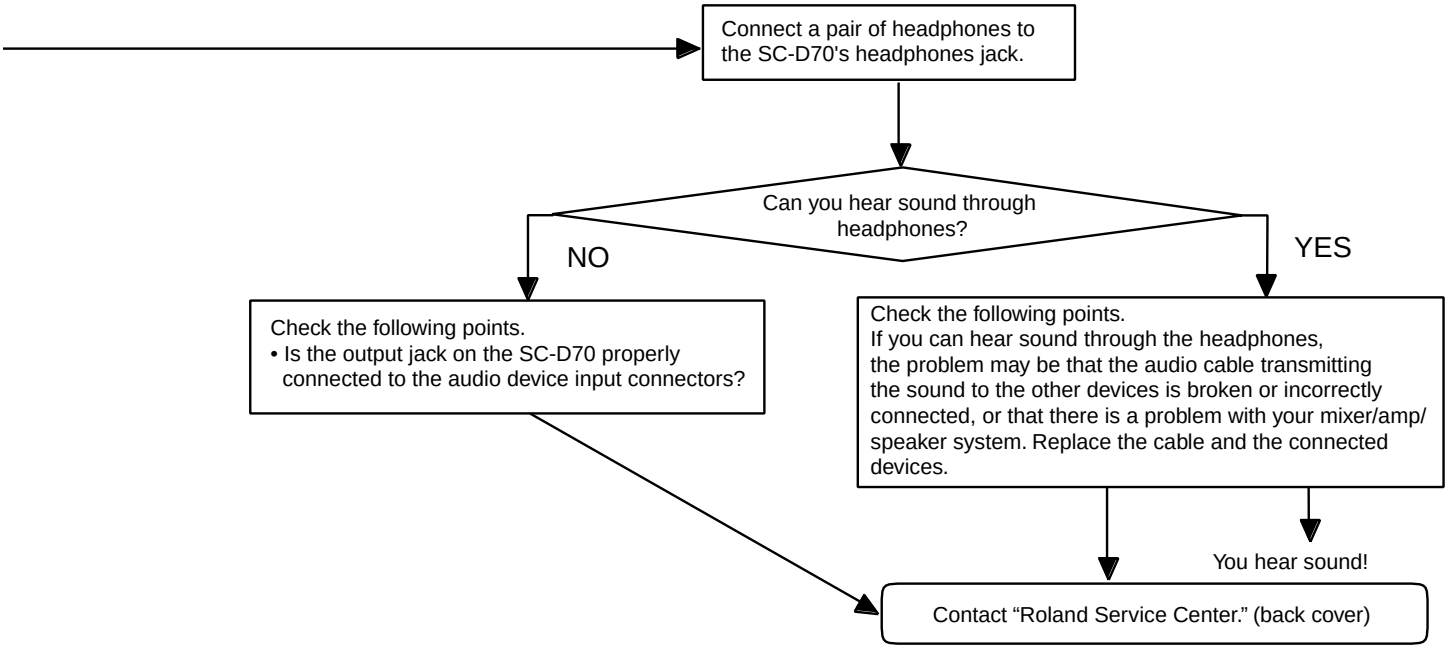
Compared with other problems, failure to sound may be due to a wide and complex range of causes, but in most cases, the cause is an incorrect connection between devices, or incorrect settings for the driver or software.

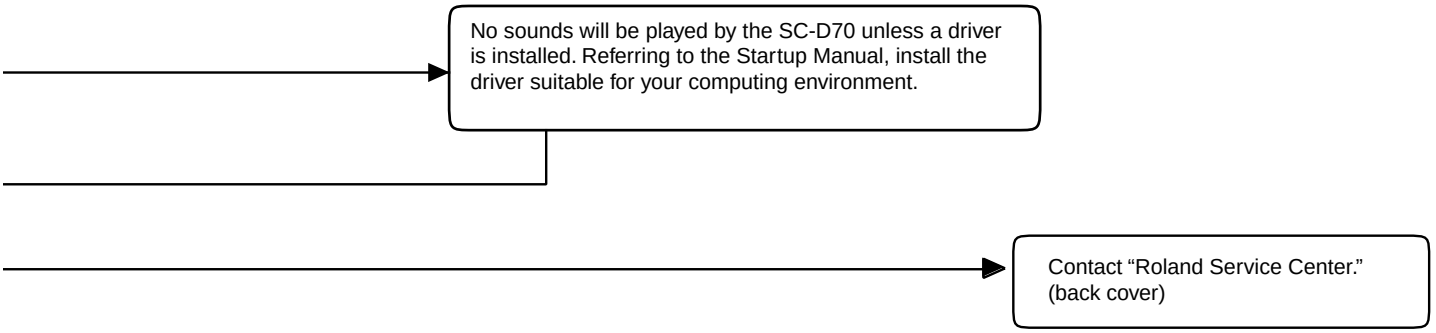
Viewing the flow chart

... Proceed according to the directions inside.

... Answer the questions inside.




Connect a pair of headphones to the SC-D70's headphones jack.
Can you hear sound through headphones?
NO
YES
Check the following points.
• Is the output jack on the SC-D70 properly connected to the audio device input connectors?
Check the following points.
If you can hear sound through the headphones, the problem may be that the audio cable transmitting the sound to the other devices is broken or incorrectly connected, or that there is a problem with your mixer/amp/ speaker system. Replace the cable and the connected devices.
You hear sound!
Contact “Roland Service Center.” (back cover)


No sounds will be played by the SC-D70 unless a driver is installed. Referring to the Startup Manual, install the driver suitable for your computing environment.
Contact “Roland Service Center.” (back cover)

Sound is distorted

- **You may be applying an effect that distorts the sound.**
- **If a specific sound or part is distorted, lower the part level.**
- **The USB recording level indicator or the OUTPUT level indicator may be lit all the way to the red segment.**

The input level is excessive. As described in "Adjusting the recording level," lower the input level of each source.

Part level → "Appendix" in the accompanying CD-ROM

Pitch is wrong

- **Is the pitch of all parts or of a specific part incorrect by a semitone or more?**
- **Fine tune may have been adjusted for a specific part.**
- **Received pitch bend messages may have "stuck" at a non-zero value.**

Fine tune → "Appendix" on the accompanying CD-ROM

Notes are stuck (continue to sound)

- **Depending on the sequencer software you are using, playing the keyboard while changing the recording track may cause notes to "stick."**

Pitch bend messages → "Appendix" on the accompanying CD-ROM

Something is wrong with the sound

- **You may have switched to another sound after editing sound parameters (such as for filters).**

Set all sound parameter values to zero.

- **The parameter settings of the SC-D70 may be incorrect.**

Transmit a GS Reset. (p. 54)

Sound parameters → "Appendix" on the accompanying CD-ROM

Even if you transmit a GS Reset, the settings of the system parameters will be preserved.

Sounds are interrupted

- **Sounds will be interrupted if more than 64 voices are used simultaneously.** (p. 38)

Cannot play more than 16 parts.

- **The SC-D70 can play 32 parts only if connected via the USB connector (in USB mode).**

A maximum of 16 parts can be played when connected via the MIDI connector.

Exclusive messages are not received

- **Does the device ID number of the exclusive data being transmitted match the device ID number (17) of the SC-D70?**
- **The checksum may be incorrect.**

For more about exclusive messages, refer to the "Appendix" on the accompanying CD-ROM.

SC-D70 does not output MIDI data

- **In order to output SC-D70 data via the USB connector, the SC-D70 must be started up in USB mode.** (p. 39)
- **When the SC-D70 is in MIDI mode, it will not output MIDI data from the USB connector.**

A MIDI sound generator connected to the SC-D700 cannot be played from your sequencer software

- **Performance data received by the SC-D70's USB connector will be transmitted from the MIDI OUT connector if the track output is set to MIDI OUT.**

Make the correct settings in your sequencer software, and for the various drivers.

Can't apply Delay to a drum part

- **By default, the delay send levels are set to 0 for all drum instruments.**

Set the delay send level for each instrument.
Since the delay level for the drum part is also 0 by default, you must raise the delay send level.

When you turn the insertion effect ON, the previously specified system effects (e.g., reverb) are all initialized.

- **When you turn the insertion effect ON, it is no longer possible to use Control Changes to set the send level of the system effects.**

For this reason when you turn on the insertion effect, you must use a different route to set the system effect sends.
You can use the **EFX SEND LEVEL TO REVERB/CHORUS/DELAY** System Exclusive message to set the send level to the system effects (common to the signal after the insertion effect) when EFX is ON.

Insertion effect → "Appendix" in the accompanying CD-ROM

EFX SEND LEVEL TO REVERB → "Appendix" in the accompanying CD-ROM

Is there a way to initialize automatically at each startup?

- **When the power is turned on, the SC-D70 will start up in a GS Reset condition.**
- **By using an exclusive message to send a GS Reset at the beginning of the song, you can cause a reset to occur at the beginning of the song.**

Since a bulk dump involves a large amount of data, is there a way to transmit only the data for individual parameters to the PC (sequencer)?

- In addition to bulk dump which transmits a given collection of parameters together, the SC-D70 is able to transmit individual data for separate parameters. You can try using this individual data.

Individual data can be created efficiently, since you do not have to look up System Exclusive data items one by one.

Bulk dump → "Appendix" in the accompanying CD-ROM

Individual data → "Appendix" in the accompanying CD-ROM

About MIDI

■ What is MIDI?

MIDI stands for Musical Instrument Digital Interface. By using MIDI you can convey musical instrument performance data, or sound selections. MIDI is a universally recognized standard, so MIDI-compatible instruments and devices, regardless of model or manufacture, can send music data to each other, subject to certain differences in their capabilities. MIDI uses a form of data called MIDI messages to convey actions occurring during play of an instrument, such as “a note was played” or “a pedal was pressed.”

Knowledge of MIDI is not necessarily required in order to play commercially available music data on the SC-D70, or when playing the SC-D70 from computer software (such as games). You can simply perform the operations described in the manual for your music data playback device (MIDI player) or software to play music on the SC-D70.

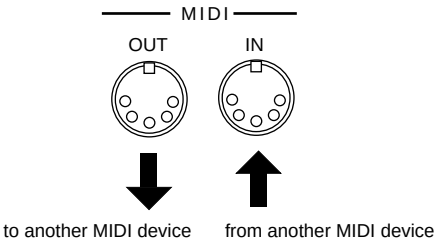
The explanations that follow will be helpful when you wish to use MIDI to control the SC-D70 in greater detail. Read this material as necessary.

How MIDI messages are exchanged

We will begin by explaining how MIDI messages are sent and received.

MIDI connectors

On the SC-D70, MIDI messages are sent and received using the following two types of connectors. As appropriate for your setup, connect MIDI cables to these connectors.

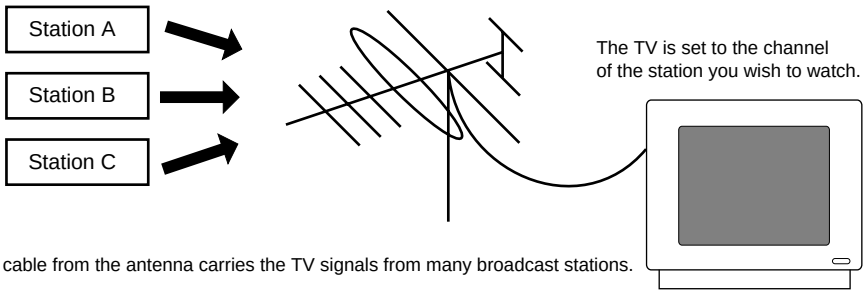


MIDI IN: Receives messages from another MIDI device.
MIDI OUT: Transmits messages from the SC-D70.

MEMO
The SC-D70 does not have a MIDI THRU connector.

MIDI channels and multitimbral sound generators

MIDI can send numerous streams of performance data over a single MIDI cable. This is made possible by MIDI channels. From the large amount of data that it receives, the receiving device can select and use only the data that is intended for it.
MIDI channels are analogous to the channels on a television. By changing channels on a television you can view programs from many different broadcast stations. You can select the program you wish to view by setting the television to match the channel of the desired broadcast station. In MIDI as well, messages are received when the receive channel matches the transmit channel.



There are sixteen MIDI channels, numbered 1–16. Music data is received when the transmit channel of the transmitting device matches the receive channel of the receiving device.
If you set MIDI channels as shown below, playing the keyboard will cause only sound generator B to produce sound; sound generator A will not produce sound. This is because sound generator B is set to the channel the keyboard is transmitting on, while sound generator A does not use a matching channel (figure 1). On the other hand, if you set the transmit channel of the keyboard to match sound generator A, sound generator A will produce sound (figure 2).

Fig. 1

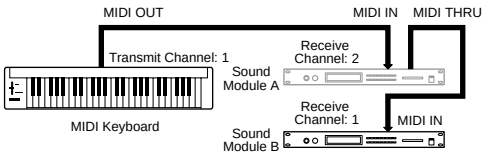
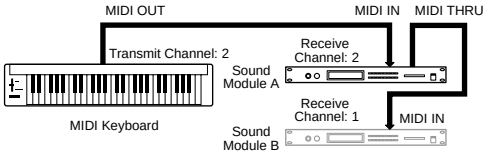


Fig. 2



Since the SC-D70 has one MIDI IN, it is able to receive 16 channels of messages. By using 16 channels you can play a sixteen-part ensemble. (If you wish to use 32 parts you must use a USB cable.) A sound generator like the SC-D70 that is able to play many parts simultaneously is called a multitimbral sound generator. The term “timbre” means “sound” or “tone.”
There are two kinds of parts: normal parts and drum parts (p. 31). Normal parts are used to play melody or bass. On a GM / GS sound generator, channel 10 is the drum part channel.

■ What is GM 2?

GM 2 is a recommended standard that allows a higher level of performance expression and compatibility by extending the number of sounds and by defining sound editing and effect operations in greater detail than were defined by GM (General MIDI).

Major differences between GM 2 and the GS format (SC-D70)

- Sound generator parameter initialization messages

[GS] GS Reset F0 41 10 42 12 40 00 7F 00 41 F7

[GM2] GM2 System On F0 7E 7F 09 03 F7

- Sound selection

[GS] Bank Select MSB and Program Change are used to select sounds.
Bank Select LSB is used to switch the sound map.

00H: INST MAP setting
01H: SC-55 map
02H: SC-88 map
03H: SC-88Pro map
04H: SC-8820 map

If a part other than part 10 is to be used as the drum part, this can be specified using System Exclusive messages. (p. 31)

< Example > Set part 11 as a drum part (ROOM set):

F0 41 10 42 12 40 1A 15 02 0F F7

MIDI ch.= 11
CC#00 000
CC#32 4
PC# 009

[GM2] Use Bank Select LSB and Program Change.
Bank Select MSB is 121. Use 120 to specify a drum part.

< Example > Set part 11 as a drum part (ROOM set):

MIDI CH= 11
CC#00 120
CC#32 0
PC# 009

The GM 2 sound map differs from the GS format. The SC-D70 normally operates according to the GS format, but if it receives a GM2 On message it will switch to GM2 mode and use the GM2 sound map. In this case, it will not be possible to select the SC-D70 sounds.

MEMO

GM (General MIDI) was defined in 1991 as recommended practice within the MIDI standard to allow the MIDI functionality of sound generators to be standardized between manufacturers. It defines the basic functionality of a sound generator, such as the number of parts, the polyphony, and the sound map.

Items newly defined in GM 2

- Polyphony 32 (GM1 is 24)
- Sounds 256 sounds / 9 drum sets (GM1 has 128 sounds / 1 drum set)
- Messages that must be recognized (* indicates those specified by GM 2)

Note On / Off
Program Change
Control Changes
- Bank Select (Controller Nos. 0, 32)
- Modulation Depth (Controller No. 1)
- Portamento Time* (Controller No. 5)
- Channel Volume (Controller No. 7)
- Pan (Controller No. 10)
- Expression (Controller No. 11)
- Hold 1 (Controller No. 64)
- Portamento On / Off* (Controller No. 65)
- Sostenuto* (Controller No. 66)
- Soft* (Controller No. 67)
- Harmonic Content* (Controller No. 71)
- Release Time* (Controller No. 72)
- Attack Time* (Controller No. 73)
- Brightness* (Controller No. 74)
- Decay Time* (Controller No. 75)
- Vibrato Rate* (Controller No. 76)
- Vibrato Depth* (Controller No. 77)
- Vibrato Delay* (Controller No. 78)
- Reverb Send Level* (Controller No. 91)
- Chorus Send Level* (Controller No. 93)
- Data Entry (Controller Nos. 6, 38)
- RPN LSB / MSB (Controller Nos. 100, 101)

RPN
- Pitch Bend Sensitivity
- Fine Tune
- Coarse Tune
- Modulation Sensitivity*
- RPN Null

Channel Mode Messages
- All Sound Off
- Reset All Controllers
- All Notes Off
- Mono Mode On*
- Poly Mode On*

Pitch Bend
Channel Pressure
GM System Messages
- GM 2 System On*
- GM 1 System On
- GM System Off

Universal System Exclusive Messages
- Master Volume*
- Master Fine Tuning*
- Master Coarse Tuning*
- Reverb Parameters*
  - Reverb Type*

- Reverb Time*
- Chorus Parameters*
  - Chorus Type*
  - Modulation Rate*
  - Modulation Depth*
  - Feedback*
  - Reverb Send Level*
- Controller Settings*
  - Channel Pressure*
  - Control Change*
- Scale / Octave Tuning*
- Keyboard Controllers*
  - Level*
  - Pan*
  - Reverb Send Level*
  - Chorus Send Level*
- Active Sensing

■ Major types of MIDI message used by the SC-D70

MIDI uses various types of MIDI message to convey different types of performance information. For example, information like "such-and-such a note was played, with this much force" is transmitted as a note message.

The action that a device takes (such as how it produces sound) when it receives each type of MIDI message will depend on the specifications of that device. This means that if the receiving device does not have the function requested by the transmitted message, the desired result will not occur.

The major types of MIDI message that can be received by the SC-D70 are described below.

* *Messages marked by a ☆ symbol are those for which reception is required by the GM System (level 1).*

Note Messages☆

These messages convey keyboard operations. Note messages include the following information:

Note number:	a number assigned to each key
Note-on:	transmitted when a key is pressed
Note-off:	transmitted when a key is released
Velocity:	a value expressing the speed at which the key was pressed

The note number is a value that expresses the location of the note on the keyboard in the range of 0–127, with middle C (C4) as 60.

Pitch Bend Change☆

These messages convey operations of the pitch bender lever (wheel) provided on most synthesizers. This allows the pitch to be continuously varied.

Program Change☆

This message is normally used to switch sounds. A program number from 1 to 128 is used to select the desired sound. The SC-D70 can use Program Changes to switch sounds (instruments). By using Bank Select messages (a type of Control Change message) in conjunction with Program Changes, you can select from an even wider range of sounds (p. 34).

Control Change

These messages control functions such as modulation or pan. A different controller number is used for each function.

Bank Select (controller numbers 0, 32)

This message is used in conjunction with Program Changes to select sounds. After using Bank Select to switch banks, use Program Change to select a sound. Transmitting only the Bank Select message will not cause the sound to change.

Modulation (controller number 1)☆

A vibrato effect will be applied when this message is received.

Volume (controller number 7)☆

This message conveys the volume of a part. The volume of the part will change when this message is received.

Expression (controller number 11)☆

This message conveys changes in volume. It is used to create expressive changes in volume during a song.

Using volume and expression

It is convenient to distinguish the use of volume and expression as follows.

Volume: adjust the volume balance between parts

Expression: modify the volume during the song (e.g., crescendo, decrescendo)

The reason for using the two messages in this way is that if you use only Volume messages to vary the loudness during the song, any later adjustment to the balance between parts will require you to modify all of the Volume data throughout the entire song. However, if you enter Volume messages only at the beginning of the song and use Expression during the song, you can simply change the Volume values to adjust the balance between parts, and continue to use the same Expression data throughout the song. For example, this would be convenient if you wanted to adjust the balance between the piano and bass parts as your song nears completion.

Panpot (controller number 10)☆

This message conveys the panning (stereo location) of a part.

Hold (1) (controller number 64)☆

This message conveys movements of the damper pedal when it is pressed or released to sustain the currently sounding notes. When a Hold On message is received, the notes will be sustained. Decay-type sounds such as a piano will continue to decay until Hold Off is received. Sustaining sounds such as an organ will continue sounding until Hold Off is received.

Sostenuto (controller number 66)

This message conveys movements of the sostenuto pedal, which sustains only those notes that were already being held down at the instant that the pedal was pressed. When Sostenuto On is received, only those notes that were in the key-on state at that moment will be sustained. Decay-type sounds such as a piano will continue to decay until Sostenuto Off is received. Sustaining sounds such as an organ will continue sounding until Sostenuto Off is received.

On some MIDI sequencers, Control Change messages located at the same step (timing) are transmitted in ascending order of their controller number. If you are using such a MIDI sequencer, you must adjust the timing of the Bank Select message so that the messages are transmitted in the order of Bank Select -> Program Change.

The part volume will change in response to both volume messages (Control Change 7) and expression messages (Control Change 11). If a value of 0 is received for either of these messages, the part volume will be 0, and will not increase even if you attempt to raise the value of the other message to increase the volume. Please be aware of this.

Soft (controller number 67)

This message conveys movements of the soft pedal, which gives the sound a more muted tone while the pedal is pressed.
When Soft On is received, the cutoff frequency will be lowered, producing a more muted tone. When Soft Off is received, the cutoff frequency will return to its previous value.

Reverb Send Level (controller number 91)

This message applies a reverb effect to the part.

Chorus Send Level (controller number 93)

This message applies a chorus effect to the part.

Delay Send Level (controller number 94)

This message applies a delay effect to the part.

Portamento (controller number 65)

Portamento Time (controller number 5)

Portamento Control (controller number 84)

Portamento is an effect that smoothly changes the pitch from the previously pressed note to the next-pressed note.
When a Portamento message is received, the portamento effect will be switched on / off. The Portamento Time message specifies the speed of the pitch change.
Portamento Control can be received to specify the source note number (the previously pressed note).

MEMO
When you apply portamento by pressing a note below the currently pressed note, the range of the effect may be limited (approximately two octaves).

RPN LSB, MSB (controller numbers 100/101)☆

Data Entry (controller numbers 6/38)☆

RPN (Registered Parameter Numbers) are messages whose function is defined by the MIDI specification, and can be used even for differing models. Use RPN MSB and RPN LSB to specify the parameter that you wish to modify, and then use Data Entry to specify the value of the parameter. RPN messages can be used to set Pitch Bend Sensitivity, Master Coarse Tune, and Master Fine Tune values.

MEMO
The values you modify using RPN will not be initialized even if the sound is switched by a Program Change.

NRPN LSB, MSB (controller numbers 98/99)

Data Entry (controller numbers 6/38)

By using NRPN (Non-registered Parameter Number) messages, you can modify sound parameters that are unique to a given device. Use NRPN MSB and NRPN LSB to specify the parameter that you wish to modify, and then use Data Entry to specify the parameter value.
The GS format defines various NRPN messages, which allow you to use GS format compatible application software to modify sound parameters. NRPN messages can be used to set Vibrato, Cutoff Frequency, Resonance, and Envelope values.

MEMO
The values you modify using NRPN will not be initialized even if the sound is switched by a Program Change.

MEMO
When the SC-D70 receives a GS Reset, it will be able to recognize NRPN messages.

MEMO
For details on using NRPN messages with a GS sound generator, refer to **Using NRPN messages with a GS sound generator** (p. 56).

Aftertouch (channel pressure only ☆)

Aftertouch is a function that lets you modify the currently sounding notes by applying pressure to the keyboard after playing a note.
There are two types of aftertouch: channel pressure and polyphonic key pressure. Channel pressure applies an effect uniformly to all note numbers of a MIDI channel. Polyphonic key pressure applies an effect only to the key (note number) to which pressure was applied.

MEMO

With the factory settings, receiving aftertouch messages will not cause the SC-D70 to apply any effect to the sound. To make aftertouch produce an effect, you must set aftertouch-related parameters.

All Sound Off

This message completely silences all currently sounding notes. The corresponding channel will be forced into silence.

All Notes Off ☆

This message generates a note-off for all notes that are currently on. In the corresponding channel, all notes that are on will be turned off. However, if Hold 1 or Sostenuto are on, the notes will continue sounding until these messages are turned off.

Reset All Controllers ☆

This message returns controllers to their default values. The following controllers on the corresponding channel will be reset to their default values.

Controller	Default value
Pitch bend change	0 (center)
Polyphonic key pressure	0 (minimum)
Channel pressure	0 (minimum)
Modulation	0(minimum)
Expression	127 (maximum)
Hold	0 (off)
Portamento	0 (off)
Soft	0 (off)
Sostenuto	0 (off)
RPN	a state in which no number is specified
NRPN	a state in which no number is specified

MEMO

The value of parameters that were set using RPN or NRPN will not change even if Reset All Controllers is received.

Active Sensing

This message allows the receiving device to detect a broken or disconnected MIDI cable. The SC-D70 transmits an Active Sensing message from MIDI IN at regular intervals.
Once an Active Sensing message is received at MIDI IN, the receiving unit will begin monitoring Active Sensing. If 420 milliseconds elapse without an Active Sensing or other message being received, the receiving unit will decide that the cable has been disconnected. It will then stop all sounding notes, perform the same processing as when a Reset All Controllers message is received, and cease monitoring Active Sensing.

Appendix

System Exclusive Messages

Exclusive messages are used to control functions that are unique to a specific device. Universal System Exclusive messages can be used even for devices made by different manufacturers, but most exclusive messages cannot be exchanged between different models or devices made by different manufacturers.
In order to specify the device for which the data is intended, Roland exclusive messages contain a manufacturer ID, a device ID, and a model ID.
For the SC-D70, the manufacturer ID is 41H, the device ID is 10H, and the model ID is 42H.

GM1 System On☆

(Universal system exclusive)
When GM System On message is received, the receiving device will set itself to the basic GM settings. After a GM System On is received, NRPN messages can no longer be received. A GM System On message is included at the beginning of song data bearing the GM logo. This means that when the song data is played from the beginning, the sound generator will automatically be initialized to the basic settings.

GM2 System On

(Universal system exclusive)
When a GM2 System On message is received, the receiving device will set itself to the basic GM2 settings. For details refer to p. 48.

GS Reset

(System exclusive common to GS format)
When a GS Reset is received, the receiving device will set itself to the basic GS settings. Once a GS Reset has been received, the NRPN messages defined by the GS format can be received. A GS Reset message is included at the beginning of song data that bears the GS logo. This means that when the song data is played back from the beginning, the sound generator will automatically be initialized to the basic settings.

Master Volume

(Universal system exclusive)
This is an exclusive message common to all MIDI devices, used to control the master volume of all parts.

Other exclusive messages

The SC-D70 supports the exclusive messages defined by the GS format as common to all GS sound generators (model ID 42). By using these exclusive messages, you can store the internal settings of the SC-D70, or make detailed changes to the parameters. For an explanation of the exclusive messages transmitted and received by the SC-D70, refer to the “Appendix” in the accompanying CD-ROM.

About the MIDI implementation chart

MIDI allows a wide variety of devices to be connected and used together. However, in some cases, it may not be possible to exchange certain MIDI messages. For example, even if you attempt to control an effect by sending aftertouch messages from your keyboard, nothing will happen if the connected sound generator does not respond to aftertouch. In this way, only messages that are supported by both devices can be exchanged successfully.

The MIDI specification requires that a **MIDI implementation chart** (refer to "Appendix" in the accompanying CD-ROM") be included in the owner's manual of each MIDI device. Compare the Transmit column of the transmitting device's chart with the Receive column of the receiving device's chart. Messages marked by "O" in both columns can be exchanged. If either column shows a "X," that message cannot be exchanged.

The "Appendix" in the accompanying CD-ROM also contains explanations of the MIDI implementation of the SC-8850, such as the data format for exclusive messages.

Using NRPN messages with a GS sound generator

There is an extended range of Control Change messages called **NRPN** (Non-registered Parameter Number). GS sound generators can use these NRPN messages to adjust sound parameters such as vibrato, filter, and envelope. This allows you to use relatively simple and compact Control Change messages to modify the sound, instead of using complex System Exclusive data (p. 51). The **controller number** is a number used to specify the function of these Control Change messages.
The MIDI specification does not define the functions that can be assigned to NRPN. NRPN is an extended range to which parameters unique to a device or performance expression parameters can be assigned. In contract, RPN (Registered Parameter Number) is an extended range of Control Changes whose function is defined by the MIDI specification (p. 52).
To use NRPN, you first use the combination of NRPN MSB (controller number 99) and NRPN LSB (controller number 98) to specify a function (sound parameter), and then transmit a Data Entry (controller number 6) message to modify the value of the specified sound parameter.
The **MIDI implementation** gives the combination of NRPN values (for GS sound generators) in hexadecimal notation, but a table converted into decimal notation is given below.

NRPN MSB	NRPN LSB	Value range	Function
1	8	0 - 64 - 127	Vibrato rate *1
1	9	0 - 64 - 127	Vibrato depth *1
1	10	0 - 64 - 127	Vibrato delay *1
1	32	0 - 64 - 127	TVF cutoff frequency *1
1	33	0 - 64 - 127	TVF resonance *1
1	99	0 - 64 - 127	TVF&TVA envelope attack time *1
1	100	0 - 64 - 127	TVF&TVA envelope decay time *1
1	102	0 - 64 - 127	TVF&TVA envelope release time *1
24	rr	0 - 64 - 127	Drum instrument pitch coarse *1 Adjust the pitch for each percussion instrument of the drum part.
26	rr	0 - 127	Drum instrument TVA level Adjust the volume for each percussion instrument of the drum part.
28	rr	0, 1 - 64 - 127	Drum instrument panpot Adjust the pan for each percussion instrument of the drum part. 0 is random, 1 is far left, 127 is far right.
29	rr	0 - 127	Drum instrument reverb send level Adjust the reverb depth for each percussion instrument of the drum part.
30	rr	0 - 127	Drum instrument chorus send level Adjust the chorus depth for each percussion instrument of the drum part.
31	rr	0 - 127	Drum instrument delay send level Adjust the delay depth for each percussion instrument of the drum part (only for SC-88 / SC-88Pro / SC-8850 / SC-8820 / SC-D70).

As an example, we will explain how to change the TVF cutoff frequency (one of the functions listed above). First specify the function to be controlled (TVF cutoff frequency) by the combination of NRPN MSB and NRPN LSB. NRPN MSB is controller number 99, and NRPN LSB is controller number 98.
Transmit the following:

Controller number 99, value of 1

Controller number 98, value of 32.

This will specify the TVF cutoff frequency. Next, use the Data Entry Control Change to specify the value (xx) of the TVF cutoff frequency.
ticks at TPQN=480).

Controller number 6 with a value of xx.

When you transmit this value, the TVF cutoff frequency will change, adjusting the tone of the instrument selected for that part.

In order to prevent accidental Data Entry operations, we recommend that you send the following RPN value.

Controller number 101, value 127
Controller number 100, value 127

This RPN setting is called the **Null function**. It sets a state in which the NRPN and RPN numbers have not been specified. In this state, transmitting the Data Entry Control Change will have no effect on the sound parameters, as long as NRPN has not been used to once again specify a parameter. This prevents the sound from being modified inadvertently.

For drum instrument-related functions, NRPN LSB:rr is transmitted as the note number of the percussion instrument in the drum set list (p. 64), to specify the percussion instrument that will be edited. For example, if you wish to apply no reverb to the High Bongo that is assigned to middle C (note number 60) of the STANDARD Set1 drum set, you would transmit the following MIDI messages in the order shown.

Controller number 99, value 29
Controller number 98, value 60
Controller number 6, value 0

In the table at left, parameters marked by *1 will change relative to the standard preset value (0). The change will depend on the individual sound, and in some cases the change may be difficult to notice. The range of change will also differ between sounds.

For details on entering and transmitting Control Change messages with your equipment or software, refer to the manual for your equipment or software. For some devices, only specific controller numbers can be used.

RPN, NRPN and data entry messages must be transmitted in the correct order described above. In some music software, MIDI messages entered at the identical (or adjacent) timing may be transmitted in a different order than you intend, so it is a good idea to space these messages apart (approximately one tick at TPQN=96, or five ticks at TPQN=480).

Operation via MIDI

Here's how to change the cutoff frequency value of a part via MIDI.

< Example > Set the part 3 cutoff frequency to -25

MIDI CH =	03	
CC#99	01	... Cutoff frequency
CC#98	32	... Cutoff frequency
CC#06	39	... 64 is 0, so 64 - 25 = 39

Operation via MIDI

Here's how to change the pitch of a drum instrument via MIDI

< Example > For note number 48 of the part 10 drum set, raise the pitch +5 from the original setting

MIDI CH =	10	
CC#99	24	... Drum instrument pitch coarse
CC#98	48	... Note number
CC#06	69	... 64 is the original pitch, so use 64 + 5 = 69

MEMO

Values adjusted using NRPN will not be initialized even if a Program Change is received to switch the sound. If you wish to initialize the settings that were made via NRPN, send a GS Reset.

MEMO

TPQN: Ticks Per Quarter Note (the number of ticks in one quarter note)

MEMO

Once the SC-D70 has received a GS Reset, it will be able to receive NRPN messages.

PC : program number (Instrument number)
CC00 : value of controller number 0 (Bank number, Variation number)
Voices : number of voices used by the Instrument
: : legato-enabled sounds
+ : a percussive sound which cannot be played melodically. Use near C4 (note number 60).

Instrument List

* *The SC-8820 Map is employed by the SC-D70.*

Piano

CC00	PC	SC-8820 Map	Voices
000	**001**	**Piano 1**	**1**
001		UprightPiano	1
002		Mild Piano	1
008		Upright P w	1
009		Mild Piano w	1
016		European Pf	1
024		Piano + Str.	2
025		Piano + Str2	2
026		Piano+Choir1	2
027		Piano+Choir2	2
000	**002**	**Piano 2**	**2**
001		Pop Piano	2
002		Rock Piano	2
008		Pop Piano w	2
009		Rock Piano w	2
016		Dance Piano	2
000	**003**	**Piano 3**	**2**
001		EG+Rhodes 1	2
002		EG+Rhodes 2	2
008		Piano 3w	2
000	**004**	**Honky-tonk**	**2**
008		Honky-tonk 2	2
000	**005**	**E.Piano 1**	**1**
008		St.Soft EP	2
009		Cho. E.Piano	2
010		SilentRhodes	2
016		FM+SA EP	2
017		Dist E.Piano	2
024		Wurly	2
025		Hard Rhodes	2
026		MellowRhodes	2
000	**006**	**E.Piano 2**	**2**
001		E.Piano 3	2
008		Detuned EP 2	2
009		Detuned EP 3	2
010		EP Legend	2
016		St.FM EP	2
024		Hard FM EP	2
032		EP Phase	2
000	**007**	**Harpsichord**	**1**
001		Harpsichord2	2
002		Harpsichord3	2
008		Coupled Hps.	2
016		Harpsi.w	1
024		Harpsi.o	2
032		Synth Harpsi	2
000	**008**	**Clav.**	**1**
001		Clav. 2	2
002		Atk Clav.1	2
003		Atk Clav.2	2
008		Comp Clav.	1
016		Reso Clav.	1
017		Phase Clav	1
024		Clav.o	2
032		Analog Clav.	2
033		JP8 Clav. 1	1
035		JP8 Clav. 2	1
036		SynRingClav.	2
037		SynDistClav.	1
038		JP8000 Clav.	1
039		Pulse Clav	1

Chromatic percussion

CC00	PC	SC-8820 Map	Voices
000	**009**	**Celesta**	**1**
001		Pop Celesta	2
000	**010**	**Glockenspiel**	**1**
000	**011**	**Music Box**	**1**
001		Music Box 2	2
008		St.Music Box	2
000	**012**	**Vibraphone**	**1**
001		Pop Vibe.	2
008		Vibraphone w	1
009		Vibraphones	2
000	**013**	**Marimba**	**1**
008		Marimba w	1
016		Barafon	1
017		Barafon 2	1
024		Log drum	1
000	**014**	**Xylophone**	**1**
008		Xylophone w	1
000	**015**	**Tubular-bell**	**1**
008		Church Bell	1
009		Carillon	1
010		Church Bell2	2
016		Tubularbellw	1
000	**016**	**Santur**	**1**
001		Santur 2	2
002		Santur 3	2
008		Cimbalom	2
016		Zither 1	1
017		Zither 2	2
024		Dulcimer	2

Organ

CC00	PC	SC-8820 Map	Voices
000	**017**	**Organ 1**	**2**
001		Organ 101	2
002		Ful Organ 1	2
003		Ful Organ 2	2
004		Ful Organ 3	2
005		Ful Organ 4	2
006		Ful Organ 5	2
007		Ful Organ 6	2
008		Trem. Organ	2
009		Organ o	2
010		Ful Organ 7	2
011		Ful Organ 8	2
012		Ful Organ 9	2
016		60's Organ 1	1
017		60's Organ 2	1
018		60's Organ 3	1
019		Farf Organ	1
024		Cheese Organ	1
025		D-50 Organ	2
026		JUNO Organ	2
027		Hybrid Organ	2
028		VS Organ	2
029		Digi Church	2
030		JX-8P Organ	2
031		FM Organ	2
032		70's E.Organ	2
033		Even Bar	2
040		Organ Bass1	
048		5th Organ	2
000	**018**	**Organ 2**	**2**
001		Jazz Organ	2
002		E.Organ 16+2	2
003		Jazz Organ 2	2
004		Jazz Organ 3	2
005		Jazz Organ 4	2
006		Jazz Organ 5	2
007		Jazz Organ 6	2
008		Chorus Or.2	2
009		Octave Organ	2
032		Perc. Organ	2
033		Perc.Organ 2	2
034		Perc.Organ 3	2
035		Perc.Organ 4	2
000	**019**	**Organ 3**	**2**
008		Rotary Org.	1
016		Rotary Org.S	1
017		Rock Organ 1	2
018		Rock Organ 2	2
024		Rotary Org.F	1
000	**020**	**Church Org.1**	**1**
008		Church Org.2	2
016		Church Org.3	2
024		Organ Flute	1
032		Trem.Flute	2
033		Theater Org.	2
000	**021**	**Reed Organ**	**1**
008		Wind Organ	2
016		Puff Organ	2
000	**022**	**Accordion Fr**	**1**
008		Accordion It	1
009		Dist. Accord	2
016		Cho. Accord	2
024		Hard Accord	2
025		Soft Accord	2
000	**023**	**Harmonica**	**1**
001		Harmonica 2	1
008		B.Harp Basic	1
009		B.Harp Suppl	1
000	**024**	**Bandoneon**	**2**
008		Bandoneon 2	2
016		Bandoneon 3	2

Guitar

CC00	PC	SC-8820 Map	Voices
000	**025**	**Nylon-str.Gt**	**2**
008		Ukulele	1
016		Nylon Gt.o	2
024		Velo Harmnix	1
032		Nylon Gt.2	1
040		Lequint Gt.	1
000	**026**	**Steel-str.Gt**	**1**
008		12-str.Gt	2
009		Nylon+Steel	2
010		Atk Steel Gt	2
016		Mandolin	2
017		Mandolin 2	2
018		MandolinTrem	2
032		Steel Gt.2	1
033		Steel + Body	2
000	**027**	**Jazz Gt.**	**1**
001		Mellow Gt.	2
008		Pedal Steel	1
000	**028**	**Clean Gt.**	**1**
001		Clean Half	1
002		Open Hard 1	2
003		Open Hard 2	1
004		JC Clean Gt.	1
005		Atk CleanGt.	2
008		Chorus Gt.	2
009		JC Chorus Gt	2
016		TC FrontPick	1
017		TC Rear Pick	1
018		TC Clean ff	2
019		TC Clean 2:	2
020		LP Rear Pick	1
021		LP Rear 2	2
022		LP RearAtack	2
023		Mid Tone GTR	1
024		Chung Ruan	1
025		Chung Ruan 2	2
000	**029**	**Muted Gt.**	**1**
001		Muted Dis.Gt	1
002		TC Muted Gt.	2
008		Funk Pop	1
016		Funk Gt.2	1
024		Jazz Man	2

CCC00	PC	SC-8820 Map	Voices
000	**030**	**Overdrive Gt**	**2**
001		Overdrive 2	2
002		Overdrive 3	2
003		More Drive	2
004		Guitar Pinch	1
005		Attack Drive	2
008		LP OverDrvGt	2
009		LP OverDrv:	2
010		LP Half Drv	2
011		LP Half Drv2	2
012		LP Chorus	2
000	**031**	**DistortionGt**	**2**
001		Dist. Gt2:	2
002		Dazed Guitar	2
003		Distortion:	2
004		Dist. Fast:	2
005		Attack Dist	2
008		Feedback Gt.	2
009		Feedback Gt2	2
016		Power Guitar	2
017		Power Gt.2	2
018		5th Dist.	2
024		Rock Rhythm	2
025		Rock Rhythm2	2
026		Dist Rtm GTR	1
000	**032**	**Gt.Harmonics**	**1**
008		Gt. Feedback	1
009		Gt.Feedback2	2
016		Ac.Gt.Harmnx	1
024		E.Bass Harm.	1

Bass

CC00	PC	SC-8820 Map	Voices
000	**033**	**Acoustic Bs.**	**1**
001		Rockabilly	2
008		Wild A.Bass	2
009		Atk A.Bass	2
016		Bass + OHH	2
000	**034**	**Fingered Bs.**	**1**
001		Fingered Bs2	2
002		Jazz Bass	1
003		Jazz Bass 2	2
004		Rock Bass	2
005		Heart Bass	1
006		AttackFinger	2
007		Finger Slap	2
008		ChorusJazzBs	2
016		F.Bass/Harm.	1
000	**035**	**Picked Bass**	**1**
001		Picked Bass2	2
002		Picked Bass3	2
003		Picked Bass4	2
004		Double Pick	2
008		Muted PickBs	1
016		P.Bass/Harm.	1
000	**036**	**Fretless Bs.**	**1**
001		Fretless Bs2	2
002		Fretless Bs3	2
003		Fretless Bs4	2
004		Syn Fretless	2
005		Mr.Smooth	2
008		Wood+FlessBs	2
000	**037**	**Slap Bass 1**	**1**
001		Slap Pop	1
008		Reso Slap	1
009		Unison Slap	2
000	**038**	**Slap Bass 2**	**2**
001		Slap Bass 3	2
008		FM Slap	2

CC00	PC	SC-8820 Map	Voices
000	**039**	**Synth Bass 1**	**2**
001		SynthBass101	1
002		CS Bass	2
003		JP-4 Bass	1
004		JP-8 Bass	2
005		P5 Bass	1
006		JPMG Bass	2
008		Acid Bass	1
009		TB303 Bass	1
010		Tekno Bass	2
011		TB303 Bass 2	1
012		Kicked TB303	2
013		TB303 Saw Bs	1
014		Rubber303 Bs	1
015		Reso 303 Bs	1
016		Reso SH Bass	1
017		TB303 Sqr Bs	1
018		TB303 DistBs	1
019		Clavi Bass	2
020		Hammer	2
021		Jungle Bass	1
022		Square Bass	2
023		Square Bass2	2
024		Arpeggio Bs	1
032		Hit&Saw Bass	2
033		Ring Bass	2
034		AtkSineBass	2
035		OB sine Bass	2
036		Auxiliary Bs	2
040		303SqDistBs	1
041		303SqDistBs2	2
042		303SqDistBs3	1
043		303Sqr.Rev	1
044		TeeBee	1
000	**040**	**Synth Bass 2**	**2**
001		SynthBass201	2
002		Modular Bass	2
003		Seq Bass	2
004		MG Bass	1
005		Mg Oct Bass1	2
006		MG Oct Bass2	2
007		MG Blip Bs:	2
008		Beef FM Bass	2
009		Dly Bass	2
010		X Wire Bass	2
011		WireStr Bass	2
012		Blip Bass:	2
013		RubberBass 1	2
014		Syn Bell Bs	2
015		Odd Bass	2
016		RubberBass 2	2
017		SH101 Bass 1	1
018		SH101 Bass 2	1
019		Smooth Bass	2
020		SH101 Bass 3	1
021		Spike Bass	1
022		House Bass:	2
023		KG Bass	2
024		Sync Bass	2
025		MG 5th Bass	2
026		RND Bass	2
027		WowMG Bass	2
028		Bubble Bass	2
029		Attack Pulse	1
030		Sync Bass 2	2
031		Pulse Mix Bs	2
032		MG Dist Bass	2
033		Seq Bass 2	2
034		3rd Bass	2
035		MG Oct Bass	2
036		SlowEnvBass	2
037		Mild Bass	2
038		DistEnvBass	2
039		MG LightBass	2
040		DistSynBass	2
041		Rise Bass	2
042		Cyber Bass	2

Strings/orchestra

CC00	PC	SC-8820 Map	Voices
000	**041**	**Violin :**	**2**
001		Violin Atk:	2
008		Slow Violin	1
000	**042**	**Viola :**	**2**
001		Viola Atk.:	2
000	**043**	**Cello :**	**2**
001		Cello Atk.:	2
000	**044**	**Contrabass**	**1**
000	**045**	**Tremolo Str**	**1**
002		Trem Str.St.	2
008		Slow Tremolo	1
009		Suspense Str	2
010		SuspenseStr2	2
000	**046**	**PizzicatoStr**	**1**
001		Vcs&Cbs Pizz	2
002		Chamber Pizz	2
003		St.Pizzicato	2
008		Solo Pizz.	1
016		Solo Spic.	1
017		StringsSpic.	2
000	**047**	**Harp**	**1**
001		Harp&Strings	2
002		Harp St.	2
008		Uillean Harp	2
016		Synth Harp	1
024		Yang Qin	2
025		Yang Qin 2	2
026		SynthYangQin	2
000	**048**	**Timpani**	**1**

Ensemble

CC00	PC	SC-8820 Map	Voices
000	**049**	**Strings :**	**2**
001		Bright Str:	1
002		ChamberStr:	2
003		Cello sect.	1
004		Bright Str.2	2
005		Bright Str.3	2
006		Quad Strings	2
007		Mild Strings	2
008		Orchestra	2
009		Orchestra 2	2
010		Tremolo Orch	2
011		Choir Str.	2
012		Strings+Horn	2
013		Str.+Flute	2
014		Choir Str.2	2
015		Choir Str.3	2
016		St. Strings	2
017		St.Strings 2	2
018		St.Strings 3	2
019		Orchestra 3	2
020		Orchestra 4	2
024		Velo Strings	2
032		Oct Strings1	2
033		Oct Strings2	2
034		ContraBsSect	2
040		60s Strings	2
000	**050**	**Slow Strings**	**1**
001		SlowStrings2	1
002		SlowStrings3	2
008		Legato Str.	2
009		Warm Strings	2
010		St.Slow Str.	2
011		St.Slow Str2	2
012		S.Str+Choir	2
013		S.Str+Choir2	2

Appendix

PC : program number (Instrument number)
CC00 : value of controller number 0 (Bank number, Variation number)
Voices : number of voices used by the Instrument
: : legato-enabled sounds
+ : a percussive sound which cannot be played melodically. Use near C4 (note number 60).

CC00	PC	SC-8820 Map	Voices
000	**051**	**Syn.Strings1**	**2**
001		OB Strings	2
002		StackStrings	2
003		JP Strings	2
004		Chorus Str.	2
008		Syn.Strings3	2
009		Syn.Strings4	2
010		Syn.Strings6	2
011		Syn.Strings7	2
012		LoFi Strings	2
016		High Strings	2
017		Hybrid Str.	2
024		Tron Strings	2
025		Noiz Strings	2
000	**052**	**Syn.Strings2**	**2**
001		Syn.Strings5	2
002		JUNO Strings	2
003		FilteredOrch	2
004		JP Saw Str.	2
005		Hybrid Str.2	2
006		DistStrings	2
007		JUNOFullStr.	2
008		Air Strings	2
009		Atk Syn Str.	2
010		StraightStr.	2
000	**053**	**Choir Aahs**	**1**
008		St.ChoirAahs	2
009		Melted Choir	2
010		Church Choir	2
011		Boys Choir 1	1
012		Boys Choir 2	2
013		St.BoysChoir	2
014		Rich Choir	2
016		Choir Hahs	1
024		Chorus Lahs	1
032		Chorus Aahs	2
033		Male Aah+Str	2
000	**054**	**Voice Oohs**	**1**
001		Chorus Oohs	2
002		Voice Oohs 2	2
003		Chorus Oohs2	2
004		OohsCodeMaj7	1
005		OohsCodeSus4	1
006		Jazz Scat	1
008		Voice Dahs	1
009		JzVoice Dat	1
010		JzVoice Bap	1
011		JzVoice Dow	1
012		JzVoice Thum	1
016		VoiceLah Fem	1
017		ChorusLahFem	2
018		VoiceLuh Fem	1
019		ChorusLuhFem	2
020		VoiceLan Fem	1
021		ChorusLanFem	2
022		VoiceAah Fem	1
023		VoiceUuh Fem	1
024		Fem Lah&Lan	1
032		VoiceWah Mal	1
033		ChorusWahMal	2
034		VoiceWoh Mal	1
035		ChorusWohMal	2
036		VoiceAah Mal	1
037		VoiceOoh Mal	1
040		Humming	2
000	**055**	**SynVox**	**1**
001		SynVox 2	2
002		SynVox 3	2
008		Syn.Voice	2
009		Silent Night	2
010		Syn.Voice 2	2
016		VP330 Choir	1
017		Vinyl Choir	2
018		JX8P Vox	2
019		Analog Voice	1

CC00	PC	SC-8820 Map	Voices
000	**056**	**OrchestraHit**	**2**
001		Bass Hit	2
002		6th Hit	2
003		Euro Hit	2
008		Impact Hit	2
009		Philly Hit	2
010		Double Hit	2
011		Perc. Hit	1
012		Shock Wave	2
013		Bounce Hit	1
014		Drill Hit	1
015		Thrill Hit	1
016		Lo Fi Rave	2
017		Techno Hit	1
018		Dist. Hit	1
019		Bam Hit	1
020		Bit Hit	1
021		Bim Hit	1
022		Technorg Hit	1
023		Rave Hit	2
024		Strings Hit	2
025		Stack Hit	2
026		Industry Hit	1
027		Clap Hit	1

Brass

CC00	PC	SC-8820 Map	Voices
000	**057**	**Trumpet**	**1**
001		Trumpet 2	1
002		Trumpet:	1
003		Dark Trumpet	1
004		Trumpet & Nz	2
008		Flugel Horn	1
016		4th Trumpets	2
024		Bright Tp.	2
025		Warm Tp.	2
026		Warm Tp.2	2
027		Twin Tp.	2
032		Syn. Trumpet	1
000	**058**	**Trombone**	**1**
001		Trombone 2	1
002		Twin bones	2
003		Bones & Tuba	2
004		Bright Tb	1
008		Bs. Trombone	1
016		Euphonium	2
000	**059**	**Tuba**	**1**
001		Tuba 2	1
008		Tuba + Horn	2
000	**060**	**MutedTrumpet**	**1**
001		Cup Mute Tp	1
002		MuteTrumpet2	1
003		MuteTrumpet3	2
008		Muted Horns	1
000	**061**	**French Horns**	**1**
001		Fr.Horn 2	2
002		Horn + Orche	2
003		Wide FreHrns	2
008		F.Hrn Slow:	1
009		Dual Horns	2
016		Synth Horn	2
024		F.Horn Rip	1

CC00	PC	SC-8820 Map	Voices
000	**062**	**Brass 1**	**2**
001		Brass ff	1
002		Bones Sect.	1
003		St. Brass ff	2
004		Quad Brass1	2
005		Quad Brass2	2
008		Brass 2	2
009		Brass 3	2
010		Brass sfz	2
012		Brass sfz 2	2
014		FatPop Brass	2
016		Brass Fall	1
017		Trumpet Fall	1
024		Octave Brass	2
025		Brass + Reed	2
026		Fat + Reed	2
032		Orch Brass	2
033		Orch Brass 2	2
035		St.FatPopBrs	2
036		St.Orch Brs	2
037		St.Orch Brs2	2
038		St.Orch Brs3	2
000	**063**	**Synth Brass1**	**2**
001		JUNO Brass	2
002		Stack Brass	2
003		SH-5 Brass	2
004		MKS Brass	2
005		Jump Brass	1
008		Pro Brass	2
009		P5 Brass	2
010		OrchSynBrass	2
016		Oct SynBrass	2
017		Hybrid Brass	2
018		OctSynBrass2	2
019		BPF Brass	2
000	**064**	**Synth Brass2**	**2**
001		Soft Brass	2
002		Warm Brass	2
003		Synth Brass3	2
004		Sync Brass	2
005		Fat SynBrass	2
006		DeepSynBrass	2
008		SynBrass sfz	1
009		OB Brass	2
010		Reso Brass	2
011		DistSqrBrass	2
012		JP8000SawBrs	2
016		Velo Brass 1	2
017		Transbrass	2

Reed

CC00	PC	SC-8820 Map	Voices
000	**065**	**Soprano Sax**	**1**
008		Soprano Exp.	1
000	**066**	**Alto Sax**	**1**
008		AltoSax Exp.	1
009		Grow Sax	1
016		AltoSax + Tp	2
017		Sax Section	2
000	**067**	**Tenor Sax**	**2**
001		Tenor Sax:	2
008		BreathyTn.:	1
009		St.Tenor Sax	2
000	**068**	**Baritone Sax**	**2**
001		Bari. Sax:	2
008		Bari & Tenor	2
000	**069**	**Oboe**	**1**
008		Oboe Exp.	1
016		Multi Reed	1
000	**070**	**English Horn**	**1**
000	**071**	**Bassoon**	**1**
000	**072**	**Clarinet**	**1**
008		Bs Clarinet	1
016		Multi Wind	1
017		Quad Wind	2

Pipe

CC00	PC	SC-8820 Map	Voices
000	**073**	**Piccolo**	**1**
001		Piccolo:	1
008		Nay	2
009		Nay Tremolo	2
016		Di	2
000	**074**	**Flute**	**1**
001		Flute 2:	1
002		Flute Exp.	1
003		Flt Travelso	2
008		Flute + Vln	2
009		Pipe & Reed	2
016		Tron Flute	1
017		Indian Flute	1
000	**075**	**Recorder**	**1**
000	**076**	**Pan Flute**	**2**
008		Kawala	2
016		Zampona	2
017		Zampona Atk	1
024		Tin Whistle	1
025		TinWhtsle Nm	1
026		TinWhtsle Or	1
000	**077**	**Bottle Blow**	**2**
000	**078**	**Shakuhachi**	**2**
001		Shakuhachi:	2
000	**079**	**Whistle**	**1**
001		Whistle 2	2
000	**080**	**Ocarina**	**1**

Synth lead

CC00	PC	SC-8820 Map	Voices
000	**081**	**Square Wave**	**2**
001		MG Square	1
002		Hollow Mini	1
003		Mellow FM	2
004		CC Solo	2
005		Shmoog	2
006		LM Square	2
007		JP8000 TWM	2
008		2600 Sine	1
009		Sine Lead	1
010		KG Lead	1
011		Twin Sine	2
016		P5 Square	1
017		OB Square	1
018		JP-8 Square	1
019		Dist Square	1
020		303SquarDst1	1
021		303SquarDst2	1
022		303 Mix Sqr	2
023		Dual Sqr&Saw	2
024		Pulse Lead	2
025		JP8 PulseLd1	2
026		JP8 PulseLd2	1
027		MG Reso. Pls	1
028		JP8 PulseLd3	2
029		260RingLead	2
030		303DistLead	2
031		JP8000DistLd	2
032		HipHop SinLd	1
033		HipHop SqrLd	1
034		HipHop PlsLd	1
035		Flux Pulse	2

CC00	PC	SC-8820 Map	Voices
000	**082**	**Saw Wave**	**2**
001		OB2 Saw	1
002		Pulse Saw	2
003		Feline GR	2
004		Big Lead	2
005		Velo Lead	2
006		GR-300	2
007		LA Saw	1
008		Doctor Solo	2
009		Fat Saw Lead	2
010		JP8000 Saw	1
011		D-50 Fat Saw	2
012		OB DoubleSaw	2
013		JP DoubleSaw	2
014		FatSawLead 2	2
015		JP SuperSaw	2
016		Waspy Synth	2
017		PM Lead	1
018		CS Saw Lead	1
024		MG Saw 1	1
025		MG Saw 2	1
026		OB Saw 1	1
027		OB Saw 2	1
028		D-50 Saw	1
029		SH-101 Saw	1
030		CS Saw	1
031		MG Saw Lead	1
032		OB Saw Lead	1
033		P5 Saw Lead	2
034		MG unison	2
035		Oct Saw Lead	2
036		Natural Lead	2
040		SequenceSaw1	2
041		SequenceSaw2	1
042		Reso Saw	1
043		Cheese Saw 1	1
044		Cheese Saw 2	1
045		Rhythmic Saw	2
046		SequencedSaw	2
047		Techno Saw	2
000	**083**	**Syn.Calliope**	**2**
001		Vent Synth	2
002		Pure PanLead	2
008		LM Pure Lead	2
009		LM Blow Lead	2
000	**084**	**Chiffer Lead**	**2**
001		TB Lead	2
002		Hybrid Lead	2
003		Unison SqrLd	2
004		FatSolo Lead	2
005		ForcefulLead	2
006		Oct.UnisonLd	2
007		Unison SawLd	2
008		Mad Lead	2
009		CrowdingLead	2
010		Double Sqr.	2
000	**085**	**Charang**	**2**
001		Wire Lead	2
002		FB.Charang	2
003		Fat GR Lead	2
004		Windy GR Ld	2
005		Mellow GR Ld	2
006		GR & Pulse	2
008		Dist.Lead	2
009		Acid Guitar1	2
010		Acid Guitar2	2
011		Dance Dst.Gt	2
012		DanceDst.Gt2	2
016		P5 Sync Lead	1
017		Fat SyncLead	2
018		Rock Lead	2
019		5th DecaSync	2
020		Dirty Sync	1
021		DualSyncLead	2
022		LA Brass Ld	2
024		JUNO Sub Osc	1
025		2600 Sub Osc	1
026		JP8000Fd Osc	1

CC00	PC	SC-8820 Map	Voices
000	**086**	**Solo Vox**	**2**
001		Solo Vox 2	2
008		Vox Lead	2
009		LFO Vox	2
010		Vox Lead 2	2
000	**087**	**5th Saw Wave**	**2**
001		Big Fives	2
002		5th Lead	2
003		5th Ana.Clav	2
004		5th Pulse	2
005		JP 5th Saw	2
006		JP8000 5thFB	2
008		4th Lead	2
000	**088**	**Bass & Lead**	**2**
001		Big & Raw	2
002		Fat & Perky	2
003		JUNO Rave	1
004		JP8 BsLead 1	1
005		JP8 BsLead 2	2
006		SH-5 Bs.Lead	2
007		Delayed Lead	2

"Synth pad, etc"

CC00	PC	SC-8820 Map	Voices
000	**089**	**Fantasia**	**2**
001		Fantasia 2	2
002		New Age Pad	2
003		Bell Heaven	2
004		Fantasia 3	2
005		Fantasia 4	2
006		After D !	2
007		260HarmPad	2
000	**090**	**Warm Pad**	**1**
001		Thick Matrix	2
002		Horn Pad	2
003		Rotary Strng	2
004		OB Soft Pad	2
005		Sine Pad	2
006		OB Soft Pad2	2
008		Octave Pad	2
009		Stack Pad	2
010		Human Pad	2
011		Sync Brs.Pad	2
012		Oct.PWM Pad	2
013		JP Soft Pad	2
000	**091**	**Polysynth**	**2**
001		80's PolySyn	2
002		Polysynth 2	2
003		Poly King	2
004		Super Poly	2
008		Power Stack	2
009		Octave Stack	2
010		Reso Stack	1
011		Techno Stack	2
012		Pulse Stack	2
013		TwinOct.Rave	2
014		Oct.Rave	2
015		Happy Synth	2
016		ForwardSweep	2
017		ReverseSweep	2
024		Minor Rave	2
000	**092**	**Space Voice**	**1**
001		Heaven II	2
002		SC Heaven	2
003		Itopia	2
004		Water Space	2
005		Cold Space	2
006		Noise Peaker	1
007		Bamboo Hit	1
008		Cosmic Voice	2
009		Auh Vox	1
010		AuhAuh	2
011		Vocorderman	2
012		Holy Voices	2

Appendix

PC : program number (Instrument number)
CC00 : value of controller number 0 (Bank number, Variation number)
Voices : number of voices used by the Instrument
: : legato-enabled sounds
+ : a percussive sound which cannot be played melodically. Use near C4 (note number 60).

CC00	PC	SC-8820 Map	Voices
000	**093**	**Bowed Glass**	**2**
001		SoftBellPad	2
002		JP8 Sqr Pad	2
003		7thBelPad	2
004		Steel Glass	2
005		Bottle Stack	2
000	**094**	**Metal Pad**	**2**
001		Tine Pad	2
002		Panner Pad	2
003		Steel Pad	2
004		Special Rave	2
005		Metal Pad 2	2
000	**095**	**Halo Pad**	**2**
001		Vox Pad	2
002		Vox Sweep	2
008		Horror Pad	2
009		SynVox Pad	2
010		SynVox Pad 2	2
011		Breath&Rise	2
012		Tears Voices	2
000	**096**	**Sweep Pad**	**1**
001		Polar Pad	1
002		Ambient BPF	2
003		Sync Pad	2
004		Warriors	2
008		Converge	1
009		Shwimmer	2
010		Celestial Pd	2
011		Bag Sweep	2
012		Sweep Pipe	2
013		Sweep Stack	2
014		Deep Sweep	2
015		Stray Pad	2

Synth SFX

CC00	PC	SC-8820 Map	Voices
000	097	Ice Rain	2
001		Harmo Rain	2
002		African wood	2
003		Anklung Pad	2
004		Rattle Pad	2
005		Saw Impulse	2
006		Strange Str.	2
007		FastFWD Pad	2
008		Clavi Pad	2
009		EP Pad	2
010		Tambra Pad	2
011		CP Pad	2
000	**098**	**Soundtrack**	**2**
001		Ancestral	2
002		Prologue	2
003		Prologue 2	2
004		Hols Strings	2
005		HistoryWave	2
008		Rave	2
000	**099**	**Crystal**	**2**
001		Syn Mallet	1
002		Soft Crystal	2
003		Round Glock	2
004		Loud Glock	2
005		GlockenChime	2
006		Clear Bells	2
007		ChristmasBel	2
008		Vibra Bells	2
009		Digi Bells	2
010		Music Bell	2
011		Analog Bell	1
012		Blow Bell	2
013		Hyper Bell	2
016		Choral Bells	2
017		Air Bells	2
018		Bell Harp	2
019		Gamelimba	2
020		JUNO Bell	2
021		JP Bell	2
022		Pizz Bell	2
023		Bottom Bell	2

CC00	PC	SC-8820 Map	Voices
000	**100**	**Atmosphere**	**2**
001		Warm Atmos	2
002		Nylon Harp	2
003		Harpvox	2
004		HollowReleas	2
005		Nylon+Rhodes	2
006		Ambient Pad	2
007		Invisible	2
008		Pulsey Key	2
009		Noise Piano	2
010		Heaven Atmos	2
011		Tambra Atmos	2
000	**101**	**Brightness**	**2**
001		Shining Star	2
002		OB Stab	1
003		Brass Star	2
004		Choir Stab	2
005		D-50 Retour	2
006		SouthernWind	2
007		SymbolicBell	2
008		Org Bell	2
000	**102**	**Goblin**	**2**
001		Goblinson	2
002		50's Sci-Fi	2
003		Abduction	2
004		Auhbient	2
005		LFO Pad	2
006		Random Str	2
007		Random Pad	2
008		LowBirds Pad	2
009		Falling Down	2
010		LFO RAVE	2
011		LFO Horror	2
012		LFO Techno	2
013		Alternative	2
014		UFO FX	2
015		Gargle Man	1
016		Sweep FX	1
017		LM Has Come	2
018		FallinInsect	2
019		LFO Oct.Rave	2
020		Just Before	2
021		RND Fl.Chord	2
022		RandomEnding	2
023		Random Sine	2
024		EatingFilter	2
025		Noise&SawHit	2
026		Pour Magic	2
027		DancingDrill	2
028		Dirty Stack	2
029		Big Blue	2
030		Static Hit	2
031		Atl.Mod.FX	2
032		Acid Copter	2
000	**103**	**Echo Drops**	**1**
001		Echo Bell	2
002		Echo Pan	2
003		Echo Pan 2	2
004		Big Panner	2
005		Reso Panner	2
006		Water Piano	2
007		Echo SynBass	2
008		Pan Sequence	2
009		Aqua	2
010		Panning Lead	2
011		PanningBrass	2
000	**104**	**Star Theme**	**2**
001		Star Theme 2	2
002		Star Mind	2
003		Star Dust	2
004		Rep.Trance	2
005		Etherality	2
006		Mystic Pad	2
008		Dream Pad	2
009		Silky Pad	2
010		Dream Pad 2	2
011		Silky Pad 2	2
016		New Century	1
017		7th Atmos.	2
018		Galaxy Way	2
019		Rising OSC.	2

"Ethnic, etc"

CC00	PC	SC-8820 Map	Voices
000	**105**	**Sitar**	**1**
001		Sitar 2	2
002		Detune Sitar	2
003		Sitar 3	2
004		Sitar/Drone	1
005		Sitar 4	2
008		Tambra	1
016		Tamboura	2
000	**106**	**Banjo**	**1**
001		Muted Banjo	1
008		Rabab	2
009		San Xian	2
016		Gopichant	2
024		Oud	2
028		Oud+Strings	2
032		Pi Pa	1
000	**107**	**Shamisen**	**1**
001		Tsugaru	2
008		Syn Shamisen	2
000	**108**	**Koto**	**2**
001		Gu Zheng	2
008		Taisho Koto	1
016		Kanoon	2
019		Kanoon+Choir	2
024		Oct Harp	1
000	**109**	**Kalimba**	**1**
008		Sanza	2
009		Bodhran	1
010		Bodhran Mute	1
000	**110**	**Bagpipe**	**1**
008		Didgeridoo	1
009		Uillean Pipe	1
010		UillnPipe Nm	1
011		UillnPipe Or	1
000	**111**	**Fiddle**	**1**
008		Er Hu	1
009		Gao Hu	1
000	**112**	**Shanai**	**1**
001		Shanai 2	1
008		Pungi	1
016		Hichiriki	2
024		Mizmar	1
032		Suona 1	1
033		Suona 2	1

Percussive

CC00	PC	SC-8820 Map	Voices	
000	**113**	**Tinkle Bell**	**1**	
008		Bonang	1	
009		Gender	1	
010		Gamelan Gong	1	
011		St.Gamelan	2	
012		Jang Gu	2	
013		Jegogan	2	
014		Jublag	1	
015		Pemade	1	
016		RAMA Cymbal	1	
017		Kajar	1	
018		Kelontuk	1	
019		Kelontuk Mt	1	
020		Kelontuk Sid	1	
021		Kopyak Op	1	+
022		Kopyak Mt	1	+
023		Ceng Ceng	2	+
024		Reyoung	2	
025		Kempur	2	
032		Jngl Crash	1	+
040		Crash Menu	1	
041		RideCym Menu	1	
042		RideBellMenu	1	

CC00	PC	SC-8820 Map	Voices	
000	**114**	**Agogo**	**1**	
008		Atarigane	1	
016		Tambourine	1	+

CC00	PC	SC-8820 Map	Voices	
000	**115**	**Steel Drums**	**1**	
001		Island Mlt	2	
000	**116**	**Woodblock**	**1**	+
008		Castanets	1	+
016		Angklung	1	
017		Angkl Rhythm	2	
024		Finger Snaps	1	+
032		909 HandClap	1	+
040		HandClapMenu	1	
000	**117**	**Taiko**	**1**	+
001		Small Taiko	1	+
008		Concert BD	1	+
009		ConcertBD Mt	1	+
016		Jungle BD	1	+
017		Techno BD	1	+
018		Bounce	1	+
024		KendangWadon	1	+
025		Bebarongan	1	+
026		Pelegongan	1	+
027		Dholak 1	1	+
028		Dholak 2	1	+
032		Jngl BD Roll	1	+
040		Kick Menu 1	1	
041		Kick Menu 2	1	
042		Kick Menu 3	1	
043		Kick Menu 4	1	
000	**118**	**Melo. Tom 1**	**1**	+
001		Real Tom	2	+
002		Real Tom 2	2	+
003		Jazz Tom	2	+
004		Brush Tom	2	+
008		Melo. Tom 2	1	+
009		Rock Tom	2	+
016		Rash SD	1	+
017		House SD	1	+
018		Jungle SD	1	+
019		909 SD	1	+
024		Jngl SD Roll	1	+
040		SD Menu 1	1	
041		SD Menu 2	1	
042		SD Menu 3	1	
043		SD Menu 4	1	
044		SD Menu 5	1	
000	**119**	**Synth Drum**	**1**	+
008		808 Tom	2	+
009		Elec Perc	1	+
010		Sine Perc.	1	
011		606 Tom	1	+
012		909 Tom	1	+
013		606 Dist.Tom	1	+
000	**120**	**Reverse Cym.**	**1**	+
001		Reverse Cym2	1	+
002		Reverse Cym3	1	+
003		Reverse Cym4	2	+
008		Rev.Snare 1	1	+
009		Rev.Snare 2	1	+
016		Rev.Kick 11	+	
017		Rev.ConBD	1	+
024		Rev.Tom 1	1	+
025		Rev.Tom 2	1	+
026		Rev.Tom 3	1	+
027		Rev.Tom 4	1	+
040		Rev.SD Menu1	1	
041		Rev.SD Menu2	1	
042		Rev.SD Menu3	1	
043		Rev.BD Menu1	1	
044		Rev.BD Menu2	1	
045		Rev.BD Menu3	1	
046		Rev.ClapMenu	1	

SFX

CC00	PC	SC-8820 Map	Voices	
000	**121**	**Gt.FretNoise**	**1**	
001		Gt.Cut Noise	1	+
002		String Slap	1	+
003		Gt.CutNoise2	1	+
004		Dist.CutNoiz	1	+
005		Bass Slide	1	+
006		Pick Scrape	1	+
008		Gt. FX Menu	1	
009		Bartok Pizz.	1	
010		Guitar Slap	1	+
011		Chord Stroke	1	
012		Biwa Stroke	1	+
013		Biwa Tremolo	1	+
016		A.Bs.Nz Menu	1	
017		D.Gt.Nz Menu	1	
018		E.Gt.NzMenu1	1	
019		E.Gt.NzMenu2	1	
020		G.StrokeMenu	1	
021		Gt.SlideMenu	1	
022		A.Bs.Mute Nz	1	+
023		A.Bs.TouchNz	1	+
024		A.Bs.AtackNz	1	+
025		TC Up Nz	1	+
026		TC DownMt.Nz	1	+
027		TC UpMt.Nz	1	+
028		TC Down Nz	1	+
029		DstGT.Up Nz	1	+
030		DstGT.DwnNz1	1	+
031		DstGT.DwnNz2	1	+
032		DstGT.MuteNz	1	+
034		Gt.StrokeNz5	1	+
035		StlGt.SldNz1	1	+
036		StlGt.SldNz2	1	+
037		StlGt.SldNz3	1	+
038		StlGt.SldNz4	1	+
039		Gt.StrokeNz1	1	+
040		Gt.StrokeNz2	1	+
041		Gt.StrokeNz3	1	+
042		Gt.StrokeNz4	1	+
000	**122**	**Breath Noise**	**1**	
001		Fl.Key Click	1	+
002		Brth Nz Menu	1	
003		Fl.Breath 1	1	+
004		Fl.Breath 2	1	+
005		Fl.Breath 3	1	+
006		Vox Breath 1	1	+
007		Vox Breath 2	1	+
008		Trombone Nz	1	+
009		Trumpet Nz	1	+
000	**123**	**Seashore**	**1**	+
001		Rain	1	+
002		Thunder	1	+
003		Wind	1	+
004		Stream	2	+
005		Bubble	2	+
006		Wind 2	1	+
007		Cricket	1	+
016		Pink Noise	1	
017		White Noise	1	
000	**124**	**Bird**	**2**	+
001		Dog	1	+
002		Horse-Gallop	1	+
003		Bird 2	1	+
004		Kitty	1	+
005		Growl	1	+
006		Growl 2	1	+
007		Fancy Animal	1	+
008		Seal	1	+

CC00	PC	SC-8820 Map	Voices	
000	**125**	**Telephone 1**	**1**	+
001		Telephone 2	1	+
002		DoorCreaking	1	+
003		Door	1	+
004		Scratch	1	+
005		Wind Chimes	2	+
007		Scratch 2	1	+
008		ScratchKey	2	+
009		TapeRewind	1	+
010		Phono Noise	1	+
011		MC-500 Beep	1	
012		Scratch 3	1	+
013		Scratch 4	1	+
014		Scratch 5	1	+
015		Scratch 6	1	+
016		Scratch 7	1	+
000	**126**	**Helicopter**	**1**	+
001		Car-Engine	1	+
002		Car-Stop	1	+
003		Car-Pass	1	+
004		Car-Crash	2	+
005		Siren	1	+
006		Train	1	+
007		Jetplane	2	+
008		Starship	2	+
009		Burst Noise	2	+
010		Calculating	2	+
011		Perc. Bang	2	+
012		Burner	2	+
013		Glass & Glam	1	+
014		Ice Ring	1	+
015		Over Blow	2	+
016		Crack Bottle	1	+
017		Pour Bottle	1	+
018		Soda	1	+
019		Open CD Tray	1	+
020		Audio Switch	1	+
021		Key Typing	1	
022		SL 1	1	+
023		SL 2	1	+
024		Car Engine 2	1	+
025		Car Horn	1	+
026		Boeeeen	1	+
027		R.Crossing	1	+
028		Compresser	1	+
029		Sword Boom!	1	+
030		Sword Cross	1	+
031		Stab! 1	1	+
032		Stab! 2	1	+
000	**127**	**Applause**	**2**	+
001		Laughing	1	+
002		Screaming	1	+
003		Punch	1	+
004		Heart Beat	1	
005		Footsteps	1	+
006		Applause 2	2	+
007		Small Club	2	+
008		ApplauseWave	2	+
009		BabyLaughing	1	+
016		Voice One	1	+
017		Voice Two	1	+
018		Voice Three	1	+
019		Voice Tah	1	+
020		Voice Whey	1	+
022		Voice Kikit	1	+
023		Voice ComeOn	1	+
024		Voice Aou	1	+
025		Voice Oou	1	+
026		Voice Hie	1	+
000	**128**	**Gun Shot**	**1**	+
001		Machine Gun	1	+
002		Lasergun	1	+
003		Explosion	2	+
004		Eruption	1	+
005		Big Shot	2	+
006		Explosion 2	2	+

PC : Program Number (Drum Set Number)
<– : Same as the percussion sound of "STANDARD1"(PC1).
-- : No sound
[EXC] : Percussion sound of the same number will not be heard at the same time.
* : Tones which are created using two voices

Drum Set List

The drum sets of this unit are organized as follows.
(*The SC-8820 drum sets are employed by the SC-D70.)*

PC	SC-8820 map
001	STANDARD 1
002	STANDARD 2
003	STANDARD L/R
009	ROOM
010	HIP HOP
011	JUNGLE
012	TECHNO
013	ROOM L/R
014	HOUSE
017	POWER
025	ELECTRONIC
026	TR-808
027	DANCE
028	CR-78
029	TR-606
030	TR-707
031	TR-909
033	JAZZ
034	JAZZ L/R
041	BRUSH
042	BRUSH 2
043	BRUSH 2 L/R
049	ORCHESTRA
050	ETHNIC
051	KICK & SNARE
052	KICK & SNARE 2
053	ASIA
054	CYMBAL&CLAPS
055	GAMELAN 1
056	GAMELAN 2
057	SFX
058	RHYTHM FX
059	RHYTHM FX 2
060	RHYTHM FX 3
061	SFX 2
062	VOICE
063	CYM&CLAPS 2
128	---

PC : Program Number (Drum Set Number)

* *Sounds in such as the drum set of STANDARD L/R and STANDARD 3 etc. that have "RND" appended to their name (such as Kick, Snare, and Hi-Hat) in the list on the next page are sounds which will change randomly with each note played (these changes affect the timbre and timing). The purpose of this is to create a more natural sounding performance–even if all note messages for percussive instruments are sent with absolute precision, subtle fluctuations will be applied so the performance sounds less mechanical. Note, however, that you may not always be able to obtain the desired effect, depending on the circumstances.*

SC-8820 Drum Set (1)

* *About Notes 0–21, and 95–127, refer to p.73.*

	PC1 STANDARD 1		PC2 STANDARD 2		PC3 STANDARD L/R		PC9 ROOM		PC10 HIP HOP	
22	MC-500 Beep 1		<–		<–		<–		<–	
23	MC-500 Beep 2		<–		<–		<–		<–	
C1 24	Concert SD		<–		<–		<–		<–	
25	Snare Roll		<–		<–		<–		<–	
26	Finger Snap 2		Finger Snap		<–		Finger Snap		<–	
27	High Q		<–		<–		<–		<–	
28	Slap		<–		<–		<–		<–	
	Scratch Push	[EXC7]	<–		<–		<–		Scratch Push 2	[EXC7]
29 30	Scratch Pull	[EXC7]	<–		<–		<–		Scratch Pull 2	[EXC7]
31	Sticks		<–		<–		<–		<–	
32	Square Click		<–		<–		<–		<–	
33	Metronome Click		<–		<–		<–		<–	
34	Metronome Bell		<–		<–		<–		<–	
35	Standard 1 Kick 2	*	Standard 2 Kick 2		[RND] Standard Kick 2		Room Kick 2		Hip-Hop Kick 2	
C2 36	Standard 1 Kick 1	*	Standard 2 Kick 1		[RND] Standard Kick 1		Room Kick 1	*	Hip-Hop Kick 1	
37	Side Stick		<–		<–		<–		TR-808 Rim Shot	
38	Standard 1 Snare 1	*	Standard 2 Snare 1		[RND] Standard Snare 1		Room Snare 1		LoFi Snare 1	
39	TR-909 Hand Clap		Hand Clap		<–		Hand Clap		TR-707 Claps	
40	Standard 1 Snare 2		Standard 2 Snare 2		[RND] Standard Snare 2		Room Snare 2		LoFi Snare 2	
41	Low Tom 2		<–		[RND] Low Tom 2		Room Low Tom 2	*	Jazz Low Tom 2	
42	Closed Hi-Hat 1	[EXC1]	Closed Hi-Hat	[EXC1]	[RND] Closed Hi-Hat	[EXC1]	Room Closed Hi-Hat 3	[EXC1]	Room Closed Hi-Hat	[EXC1]
43	Low Tom 1		<–		<–		Room Low Tom 1	*	Jazz Low Tom 1	
44	Pedal Hi-Hat	[EXC1]	Pedal Hi-Hat	[EXC1]	<–	[EXC1]	Pedal Hi-Hat	[EXC1]	Pedal Hi-Hat	[EXC1]
45	Mid Tom 2		<–		<–		Room Mid Tom 2	*	Jazz Mid Tom 2	
46	Open Hi-Hat 1	[EXC1]	Open Hi-Hat	[EXC1]	[RND] Open Hi-Hat	[EXC1]	Room Open Hi-Hat 3	[EXC1]	Room Open Hi-Hat	[EXC1]
47	Mid Tom 1		<–		<–		Room Mid Tom 1	*	Jazz Mid Tom 1	
C3 48	High Tom 2		<–		<–		Room High Tom 2	*	Jazz High Tom 2	
49	Crash Cymbal 1	*	<–		[RND] Crash Cymbal		Room Crash Cymbal		TR-909 Crash Cymbal	
50	High Tom 1		<–		<–		Room High Tom 1	*	Jazz High Tom 1	
51	Ride Cymbal 1		<–		[RND] Ride Cymbal 1		Room Ride Cymbal		<–	
52	Chinese Cymbal		<–		<–		<–		Reverse Cymbal	
	Ride Bell		<–		[RND] Ride Bell 1		Room Ride Bell		Ride Bell	
53 54	Tambourine		<–		<–		<–		Shake Tambourine	
55	Splash Cymbal		<–		<–		<–		<–	
56	Cowbell		<–		<–		<–		TR-808 Cowbell	
57	Crash Cymbal 2		<–		<–		<–		<–	
58	Vibra-slap		<–		<–		<–		<–	
59	Ride Cymbal 2		<–		<–		<–		<–	
C4 60	High Bongo		<–		<–		<–		<–	
61	Low Bongo		<–		<–		<–		<–	
62	Mute High Conga		<–		<–		<–		<–	
63	Open High Conga		<–		<–		<–		<–	
64	Low Conga		<–		<–		<–		<–	
65	High Timbale		<–		<–		<–		<–	
66	Low Timbale		<–		<–		<–		<–	
67	High Agogo		<–		<–		<–		<–	
68	Low Agogo		<–		<–		<–		<–	
69	Cabasa		<–		<–		<–		<–	
70	Maracas		<–		<–		<–		TR-808 Maracas	
71	Short High Whistle	[EXC2]	<–		<–		<–		<–	
C5 72	Long Low Whistle	[EXC2]	<–		<–		<–		<–	
73	Short Guiro	[EXC3]	<–		<–		<–		<–	
74	Long Guiro	[EXC3]	<–		<–		<–		CR-78 Guiro	[EXC3]
75	Claves		<–		<–		<–		TR-808 Claves	
76	High Wood Block		<–		<–		<–		<–	
	Low Wood Block		<–		<–		<–		<–	
77 78	Mute Cuica	[EXC4]	<–		<–		<–		High Hoo	[EXC4]
79	Open Cuica	[EXC4]	<–		<–		<–		Low Hoo	[EXC4]
80	Mute Triangle	[EXC5]	<–		<–		<–		Electric Mute Triangle	[EXC5]
81	Open Triangle	[EXC5]	<–		<–		<–		Electric Open Triangle	[EXC5]
82	Shaker		<–		<–		<–		Shaker 2	
83	Jingle Bell		<–		<–		<–		<–	
C6 84	Bell Tree		Bar Chimes		<–		<–		<–	
85	Castanets		<–		<–		<–		<–	
86	Mute Surdo	[EXC6]	<–		<–		<–		<–	[EXC6]
87	Open Surdo	[EXC6]	<–		<–		<–		<–	[EXC6]
88	Applause 2	*	<–		<–		<–		Small Club 1	*
89	---		---		---		---		Hip-Hop Snare 2	
90	---		---		---		---		LoFi Snare Rim	
91	---		---		---		---		Hip-Hop Claps	
92	---		---		---		---		Stantard 1 Snare 1	
93	---		---		---		---		Standard 1 Snare 2	
94	---		---		---		---		Room Snare 1	
95	Room Snare 1		---		[L] Standard Kick 2	*	Standard 1 Snare 1	*	Room Snare 2	
C7 96	Room Snare 2		---		[L] Standard Kick 1	*	Standard 1 Snare 2		Dance Snare	

PC : Program Number (Drum Set Number)
<– : Same as the percussion sound of "STANDARD1"(PC1).
-- : No sound
[EXC] : Percussion sound of the same number will not be heard at the same time.
* : Tones which are created using two voices

SC-8820 Drum Set (2)

* *About Notes 0–21, and 95–127, refer to p.74.*

	PC 11 JUNGLE		PC 12 TECHNO		PC 13 ROOM L/R		PC 14 HOUSE		PC 17 POWER	
22	<–		<–		<–		<–		<–	
23	<–		<–		<–		<–		<–	
C1 24	<–		<–		<–		<–		<–	
25	<–		<–		<–		<–		<–	
26	<–		<–		Finger Snap		<–		<–	
27	<–		<–		<–		<–		<–	
28	<–		<–		<–		<–		<–	
29	Scratch Push 2	[EXC7]	Scratch Push 2	[EXC7]	<–	[EXC7]	Scratch Push 2	[EXC7]	<–	[EXC7]
30	Scratch Pull 2	[EXC7]	Scratch Pull 2	[EXC7]	<–	[EXC7]	Scratch Pull 2	[EXC7]	<–	[EXC7]
31	<–		<–		<–		<–		<–	
32	<–		<–		<–		<–		<–	
33	<–		<–		<–		<–		<–	
34	<–		<–		<–		<–		<–	
35	Jungle Kick 2		TR-808 Kick		[RND] Room Kick 2		TR-909 Kick 2		Power Kick 2	
C2 36	Jungle Kick 1		TR-909 Kick 1		[RND] Room Kick 1		TR-909 Kick 1		Power Kick 1	
37	Jungle Snare Rim		TR-909 Snare Rim		<–		House Snare Rim		<–	
38	HipHop Snare 1		TR-606 Snare 2		[RND] Room Snare 1		House Snare 1		Power Snare 1	
39	R&B Claps		TR-909 Claps		Hand Clap		TR-909 Claps		Hand Clap	
40	Jungle Snare		Techno Snare		[RND] Room Snare 2		House Snare 2		Power Snare 2	
41	TR-909 Low Tom 2		TR-606 Low Tom 2		Room Low Tom 2		TR-909 Low Tom 2		Power Low Tom 2	*
42	TR-606 Closed Hi-Hat	[EXC1]	TR-707 Closed Hi-Hat	[EXC1]	[RND] Room Closed Hi-Hat	[EXC1]	Room Closed Hi-Hat	[EXC1]	<–	
43	TR-909 Low Tom 1		TR-606 Low Tom 1		Room Low Tom 1		TR-909 Low Tom 1		Power Low Tom 1	*
44	Jungle Hi-Hat	[EXC1]	CR-78 Closed Hi-Hat	[EXC1]	Pedal Hi-Hat	[EXC1]	Pedal Hi-Hat	[EXC1]	<–	
45	TR-909 Mid Tom 2		TR-606 Mid Tom 2		Room Mid Tom 2		TR-909 Mid Tom 2		Power Mid Tom 2	*
46	TR-606 Open Hi-Hat	[EXC1]	TR-909 Open Hi-Hat	[EXC1]	[RND] Room Open Hi-Hat	[EXC1]	Room Open Hi-Hat	[EXC1]	<–	
47	TR-909 Mid Tom 1		TR-606 Mid Tom 1		Room Mid Tom 1		TR-909 Mid Tom 1		Power Mid Tom 1	*
C3 48	TR-909 High Tom 2		TR-606 High Tom 2		Room High Tom 2		TR-909 High Tom 2		Power High Tom 2	*
49	Jungle Crash		TR-909 Crash Cymbal		[RND] Room Crash Cymbal		TR-909 Crash Cymbal		<–	
50	TR-909 High Tom 1		TR-606 High Tom 1		Room High Tom 1		TR-909 High Tom 1		Power High Tom 1	*
51	Ride Cymbal 1		Ride Cymbal 1		[RND] Room Ride Cymbal		TR-909 Ride Cymbal		<–	
52	Reverse Cymbal		Reverse Cymbal		<–		Reverse Cymbal		<–	
53	Ride Bell		Ride Bell		[RND] Room Ride Bell		Ride Bell		<–	
54	Shake Tambourine		Shake Tambourine		<–		Shake Tambourine		<–	
55	<–		<–		Splash Cymbal		<–		<–	
56	TR-808 Cowbell		TR-808 Cowbell		<–		TR-808 Cowbell		<–	
57	<–		TR-909 Crash Cymbal		<–		TR-909 Crash Cymbal		<–	
58	<–		<–		<–		<–		<–	
59	<–		<–		<–		<–		<–	
C4 60	<–		CR-78 High Bongo		<–		CR-78 High Bongo		<–	
61	<–		CR-78 Low Bongo		<–		CR-78 Low Bongo		<–	
62	<–		TR-808 High Conga		<–		TR-808 High Conga		<–	
63	<–		TR-808 Mute Conga		<–		TR-808 Mute Conga		<–	
64	<–		TR-808 Low Conga		<–		TR-808 Low Conga		<–	
65	<–		<–		<–		<–		<–	
66	<–		<–		<–		<–		<–	
67	<–		<–		<–		<–		<–	
68	<–		<–		<–		<–		<–	
69	<–		<–		<–		<–		<–	
70	TR-808 Maracas		TR-808 Maracas		<–		TR-808 Maracas		<–	
71	<–		<–		<–		<–		<–	
C5 72	<–		<–		<–		<–		<–	
73	<–		<–		<–		<–		<–	
74	CR-78 Guiro	[EXC3]	CR-78 Guiro	[EXC3]	<–		CR-78 Guiro	[EXC3]	<–	
75	TR-808 Claves		TR-808 Claves		<–		TR-808 Claves		<–	
76	<–		<–		<–		<–		<–	
77	<–		<–		<–		<–		<–	
78	High Hoo	[EXC4]	High Hoo	[EXC4]	<–		High Hoo	[EXC4]	<–	
79	Low Hoo	[EXC4]	Low Hoo	[EXC4]	<–		Low Hoo	[EXC4]	<–	
80	Electric Mute Triangle	[EXC5]	Electric Mute Triangle	[EXC5]	<–		Electric Mute Triangle	[EXC5]	<–	
81	Electric Open Triangle	[EXC5]	Electric Open Triangle	[EXC5]	<–		Electric Open Triangle	[EXC5]	<–	
82	Jungle Shaker		TR-626 Shaker		<–		TR-626 Shaker		<–	
83	<–		<–		<–		<–		<–	
C6 84	<–		<–		<–		<–		<–	
85	<–		<–		<–		<–		<–	
86	<–		<–		<–		<–		<–	
87	<–		<–		<–		<–		<–	
88	Small Club 1	*	<–		<–		Small Club 1		<–	
89	Jungle Kick Roll		Dance Snare		---		TR-606 Snare 2		---	
90	Jungle Snare Roll		House Snare		---		Dance Snare		---	
91	TR-606 Snare 2		Rock Snare Dry		---		Techno Snare		---	
92	Dance Snare		Jungle Snare		---		Rock Snare Dry		---	
93	Techno Snare		LoFi Snare 1		---		Hip-Hop Snare 1		---	
94	House Snare		LoFi Snare 2		---		LoFi Snare 1		---	
95	Rock Snare Dry		HipHop Snare 1		[L] Room Kick 2		LoFi Snare 2		---	
C7 96	LoFi Snare 1		HipHop Snare 2		[L] Room Kick 1	*	Jungle Snare		---	

SC-8820 Drum Set (3)

* *About Notes 0–21, and 95–127, refer to p.74, p.75.*

	PC 25 ELECTRONIC		PC 26 TR-808		PC 27 DANCE		PC 28 CR-78		PC 29 TR-606	[Pro]
22	<–		<–		<–		<–		<–	
23	<–		<–		<–		<–		<–	
C1 24	<–		<–		<–		<–		<–	
25	<–		<–		<–		<–		<–	
26	Finger Snap 2		<–		Finger Snap 2		<–		<–	
27	<–		<–		<–		<–		<–	
28	<–		<–		<–		<–		<–	
29	Scratch Push 2	[EXC7]	Scratch Push 2	[EXC7]	Scratch Push 2	[EXC7]	Scratch Push 2	[EXC7]	Scratch Push 2	[EXC7]
30	Scratch Pull 2	[EXC7]	Scratch Pull 2	[EXC7]	Scratch Pull 2	[EXC7]	Scratch Pull 2	[EXC7]	Scratch Pull 2	[EXC7]
31	<–		<–		<–		<–		<–	
32	<–		<–		<–		<–		<–	
33	<–		<–		<–		<–		<–	
34	<–		<–		<–		<–		<–	
35	Electric Kick 2		TR-808 Kick 2		Fat Kick		CR-78 Kick 2		CR-78 Kick 2	
C2 36	Electric Kick 1	*	TR-808 Kick 1		Dance Kick		CR-78 Kick 1		TR-606 Kick 1	
37	<–		TR-808 Rim Shot		Dance Rim Shot		CR-78 Rim Shot		CR-78 Rim Shot	
38	Electric Snare 1		TR-808 Snare 1		Dance Snare		CR-78 Snare 1		TR-606 Snare 1	
39	Hand Clap		Hand Clap		Comp Claps 2		TR-707 Hand Clap		TR-707 Hand Clap	
40	Electric Snare 2		TR-808 Snare 2		Rock SD Dry		CR-78 Snare 2		TR-606 Snare 2	
41	Electric Low Tom 2	*	TR-808 Low Tom 2	*	Electric Low Tom 2	*	CR-78 Low Tom 2	*	TR-606 Low Tom 2	
42	Closed Hi-Hat 2	[EXC1]	TR-808 Closed Hi-Hat 2	[EXC1]	CR-78 Closed Hi-Hat	[EXC1]	CR-78 Closed Hi-Hat	[EXC1]	TR-606 Closed Hi-Hat	[EXC1]
43	Electric Low Tom 1	*	TR-808 Low Tom 1	*	Electric Low Tom 1	*	CR-78 Low Tom 1	*	TR-606 Low Tom 1	
44	Pedal Hi-Hat	[EXC1]	TR-808 Closed Hi-Hat	[EXC1]	TR-808 Closed Hi-Hat 2	[EXC1]	TR-606 Closed Hi-Hat	[EXC1]	TR-606 Closed Hi-Hat	[EXC1]
45	Electric Mid Tom 2	*	TR-808 Mid Tom 2	*	Electric Mid Tom 2	*	CR-78 Mid Tom 2	*	TR-606 Mid Tom 2	
46	Open Hi-Hat 2	[EXC1]	TR-808 Open Hi-Hat	[EXC1]	CR-78 Open Hi-Hat	[EXC1]	CR-78 Open Hi-Hat	[EXC1]	TR-606 Open Hi-Hat	[EXC1]
47	Electric Mid Tom 1	*	TR-808 Mid Tom 1	*	Electric Mid Tom 1	*	CR-78 Mid Tom 1	*	TR-606 Mid Tom 1	
C3 48	Electric High Tom 2	*	TR-808 High Tom 2	*	Electric High Tom 2	*	CR-78 High Tom 2	*	TR-606 High Tom 2	
49	<–		TR-808 Crash Cymbal		TR-808 Crash Cymbal		TR-808 Crash Cymbal		TR-808 Crash Cymbal	
50	Electric High Tom 1	*	TR-808 High Tom 1	*	Electric High Tom 1	*	CR-78 High Tom 1	*	TR-606 High Tom 1	
51	<–		TR-606 Ride Cymbal		TR-606 Ride Cymbal		TR-606 Ride Cymbal		TR-606 Ride Cymbal	
52	Reverse Cymbal		<–		Reverse Cymbal		<–		<–	
53	<–		<–		Ride Bell		<–		<–	
54	<–		CR-78 Tambourine		Shake Tambourine		CR-78 Tambourine		CR-78 Tambourine	
55	<–		<–		<–		<–		<–	
56	<–		TR-808 Cowbell		TR-808 Cowbell		CR-78 Cowbell		CR-78 Cowbell	
57	<–		TR-909 Crash Cymbal		<–		TR-909 Crash Cymbal		TR-909 Crash Cymbal	
58	<–		<–		<–		<–		<–	
59	<–		Ride Cymbal 2		<–		Ride Cymbal Edge		Ride Cymbal Edge	
C4 60	<–		CR-78 High Bongo		<–		CR-78 High Bongo		CR-78 High Bongo	
61	<–		CR-78 Low Bongo		<–		CR-78 Low Bongo		CR-78 Low Bongo	
62	<–		TR-808 High Conga		<–		TR-808 High Conga		TR-808 High Conga	
63	<–		TR-808 Mute Conga		<–		TR-808 Mute Conga		TR-808 Mute Conga	
64	<–		TR-808 Low Conga		<–		TR-808 Low Conga		TR-808 Low Conga	
65	<–		<–		<–		<–		<–	
66	<–		<–		<–		<–		<–	
67	<–		<–		<–		<–		<–	
68	<–		<–		<–		<–		<–	
69	<–		<–		<–		<–		<–	
70	<–		TR-808 Maracas		<–		CR-78 Maracas		CR-78 Maracas	
71	<–		<–		<–		<–		<–	
C5 72	<–		<–		<–		<–		<–	
73	<–		<–		<–		<–		<–	
74	<–		CR-78 Guiro	[EXC3]	<–		CR-78 Guiro	[EXC3]	CR-78 Guiro	[EXC3]
75	<–		TR-808 Claves		<–		CR-78 Claves		CR-78 Claves	
76	<–		<–		<–		<–		<–	
77	<–		<–		<–		<–		<–	
78	<–		High Hoo	[EXC4]	High Hoo	[EXC4]	High Hoo	[EXC4]	High Hoo	[EXC4]
79	<–		Low Hoo	[EXC4]	Low Hoo	[EXC4]	Low Hoo	[EXC4]	Low Hoo	[EXC4]
80	<–		Electric Mute Triangle		Electric Mute Triangle	[EXC5]	CR-78 Metalic Beat 1	[EXC5]	CR-78 Metalic Beat 1	[EXC5]
81	<–		Electric Open Triangle		Electric Open Triangle	[EXC5]	CR-78 Metalic Beat 2	[EXC5]	CR-78 Metalic Beat 2	[EXC5]
82	<–		TR-626 Shaker		TR-626 Shaker		TR-626 Shaker		TR-626 Shaker	
83	<–		<–		<–		<–		<–	
C6 84	<–		<–		<–		<–		<–	
85	<–		<–		<–		<–		<–	
86	<–		<–		<–		<–		<–	
87	<–		<–		<–		<–		<–	
88	Small Club 1	*	Small Club 1	*	Small Club 1	*	Small Club 1	*	Small Club 1	*
89	---		---		TR-606 Snare 2		---		---	
90	---		---		Techno Snare		---		---	
91	---		---		House Snare		---		---	
92	---		---		Jungle Snare		---		---	
93	---		---		LoFi Snare 1		---		---	
94	---		---		LoFi Snare 2		---		---	
95	---		---		HipHop Snare 1		---		---	
C7 96	---		---		Hip-Hop Snare 2		---		---	

PC : Program Number (Drum Set Number)
<– : Same as the percussion sound of "STANDARD1"(PC1).
-- : No sound
[EXC] : Percussion sound of the same number will not be heard at the same time.
* : Tones which are created using two voices

SC-8820 Drum Set (4)

** About Notes 0–21, and 95–127, refer to p.75.*

	PC 30 TR-707		PC 31 TR-909		PC 33 JAZZ		PC 34 JAZZ L/R		PC 41 BRUSH	
22	<–		<–		<–		<–		<–	
23	<–		<–		<–		<–		<–	
C1 24	<–		<–		<–		<–		<–	
25	<–		<–		<–		<–		<–	
26	<–		<–		Finger Snap 2		Finger Snap 2		Finger Snap 2	
27	<–		<–		<–		<–		<–	
28	<–		<–		<–		<–		<–	
29	Scratch Push 2	[EXC7]	Scratch Push 2	[EXC7]	<–		<–		<–	
30	Scratch Pull 2	[EXC7]	Scratch Pull 2	[EXC7]	<–		<–		<–	
31	<–		<–		<–		<–		<–	
32	<–		<–		<–		<–		<–	
33	<–		<–		<–		<–		<–	
34	<–		<–		<–		<–		<–	
35	TR-707 Kick 2		TR-909 Kick 2		Jazz Kick 2		[RND] Jazz Kick 2		Jazz Kick 2	
C2 36	TR-707 Kick 1		TR-909 Kick 1	*	Jazz Kick 1		[RND] Jazz Kick 1		Jazz Kick 1	
37	TR-707 Rim Shot		TR-909 Rim		<–		<–		<–	
38	TR-707 Snare 1		TR-909 Snare 1		Jazz Snare 1		[RND] Jazz Snare 1		Brush Tap 1	
39	TR-707 Hand Clap		<–		Hand Clap 2		Hand Clap 2		Brush Slap 1	
40	TR-707 Snare 2		TR-909 Snare2		Jazz Snare 2		[RND] Jazz Snare 2		Brush Swirl 1	
41	TR-707 Low Tom 2	*	TR-909 Low Tom 2		Jazz Low Tom 2		<–		Brush Low Tom 2	*
42	TR-707 Closed Hi-Hat	[EXC1]	TR-707 Closed Hi-Hat	[EXC1]	Closed Hi-Hat 2	[EXC1]	[RND] Jazz Closed Hi-Hat	[EXC1]	Brush Closed Hi-Hat	[EXC1]
43	TR-707 Low Tom 1	*	TR-909 Low Tom 1		Jazz Low Tom 1		<–		Brush Low Tom 1	*
44	TR-707 Closed Hi-Hat	[EXC1]	TR-707 Closed Hi-Hat	[EXC1]	Pedal Hi-Hat	[EXC1]	Pedal Hi-Hat	[EXC1]	Pedal Hi-Hat	[EXC1]
45	TR-707 Mid Tom 2	*	TR-909 Mid Tom 2		Jazz Mid Tom 2		<–		Brush Mid Tom 2	*
46	TR-707 Open Hi-Hat	[EXC1]	TR-909 Open Hi-Hat	[EXC1]	Open Hi-Hat 2	[EXC1]	[RND] Jazz Open Hi-Hat	[EXC1]	Brush Open Hi-Hat	[EXC1]
47	TR-707 Mid Tom 1	*	TR-909 Mid Tom 1		Jazz Mid Tom 1		<–		Brush Mid Tom 1	*
C3 48	TR-707 High Tom 2	*	TR-909 High Tom 2		Jazz High Tom 2		<–		Brush High Tom 2	*
49	TR-909 Crash Cymbal		TR-909 Crash Cymbal		Jazz Crash Cymbal		[RND] Jazz Crash Cymbal		Brush Crash Cymbal	
50	TR-707 High Tom 1	*	TR-909 High Tom 1		Jazz High Tom 1		<–		Brush High Tom 1	*
51	TR-909 Ride Cymbal	*	TR-909 Ride Cymbal	*	Jazz Ride Cymbal		[RND] JAZZ Ride Cymbal		Ride Cymbal Inner	
52	<–		<–		<–		<–		<–	
53	<–		<–		Jazz Ride Bell		[RND] Jazz Ride Bell		Brush Ride Bell	
54	Tambourine 2		Tambourine 2		<–		<–		<–	
55	<–		<–		<–		<–		<–	
56	TR-808 Cowbell		TR-808 Cowbell		<–		<–		<–	
57	<–		<–		<–		<–		<–	
58	<–		<–		<–		<–		<–	
59	Ride Cymbal Edge		Ride Cymbal Edge		Ride Cymbal Edge		Ride Cymbal Edge		Ride Cymbal Edge	
C4 60	<–		<–		<–		<–		<–	
61	<–		<–		<–		<–		<–	
62	<–		<–		<–		<–		<–	
63	<–		<–		<–		<–		<–	
64	<–		<–		<–		<–		<–	
65	<–		<–		<–		<–		<–	
66	<–		<–		<–		<–		<–	
67	<–		<–		<–		<–		<–	
68	<–		<–		<–		<–		<–	
69	<–		<–		<–		<–		<–	
70	TR-808 Maracas		TR-808 Maracas		<–		<–		<–	
71	<–		<–		<–		<–		<–	
C5 72	<–		<–		<–		<–		<–	
73	<–		<–		<–		<–		<–	
74	<–		CR-78 Guiro	[EXC3]	<–		<–		<–	
75	<–		TR-808 Claves		<–		<–		<–	
76	<–		<–		<–		<–		<–	
77	<–		<–		<–		<–		<–	
78	High Hoo	[EXC4]	High Hoo	[EXC4]	<–		<–		<–	
79	Low Hoo	[EXC4]	Low Hoo	[EXC4]	<–		<–		<–	
80	Electric Mute Triangle		Electric Mute Triangle		<–		<–		<–	
81	Electric Open Triangle		Electric Open Triangle		<–		<–		<–	
82	TR-626 Shaker		TR-626 Shaker		<–		<–		<–	
83	<–		<–		<–		<–		<–	
C6 84	<–		<–		<–		<–		<–	
85	<–		<–		<–		<–		<–	
86	<–		<–		<–		<–		<–	
87	<–		<–		<–		<–		<–	
88	Small Club 1	*	<–		Applause	*	Applause		Applause	*
89	---		---		---		---		---	
90	---		---		---		---		---	
91	---		---		---		---		---	
92	---		---		---		---		---	
93	---		---		---		---		---	
94	---		---		---		---		---	
95	---		---		---		[L] Jazz Kick 2		---	
C7 96	---		---		---		[L] Jazz Kick 1		---	

SC-8820 Drum Set (5)

* *About Notes 0–21, and 95–127, refer to p.76.*

	PC 42 BRUSH 2		PC 43 BRUSH 2 L/R		PC 49 ORCHESTRA		PC 50 ETHNIC		PC 51 KICK & SNARE	
22	<–		<–		<–		---		---	
23	<–		<–		<–		---		---	
C1 24	<–		<–		<–		---		---	
25	<–		<–		<–		Finger Snap		CR-78 Kick 1	
26	Finger Snap 2		Finger Snap 2		Finger Snap		Tambourine		CR-78 Kick 2	
27	<–		<–		Closed Hi-Hat 2	[EXC1]	Castanets		TR-606 Kick	
28	<–		<–		Pedal Hi-Hat	[EXC1]	Crash Cymbal 1		TR-707 Kick	*
29	<–		<–		Open Hi-Hat 2	[EXC1]	Snare Roll		TR-808 Kick 1	
30	<–		<–		Ride Cymbal 1		Concert SD		TR-909 Kick 1	
31	<–		<–		<–		Concert Cymbal		TR-909 Kick 2	
32	<–		<–		<–		Concert BD 1		Hip-Hop Kick 2	
33	<–		<–		<–		Jingle Bell		Hip-Hop Kick 1	
34	<–		<–		<–		Bell Tree		Jungle Kick 2	
35	Brush Kick 2		[RND] Brush Kick 2		Jazz Kick 1		Bar Chimes		Jungle Kick 1	
C2 36	Brush Kick 1	*	[RND] Brush Kick 1		Concert BD 1		Wadaiko	*	Techno Kick 2	
37	<–		<–		<–		Wadaiko Rim	*	Techno KicK 1	
38	Brush Tap 2		[RND] Brush Tap 2		Concert SD		Shime Taiko		Standard 1 Kick 2	
39	Brush Slap 2		[RND] Brush Slap 2		Castanets		Atarigane		Standard 1 Kick 1	
40	Brush Swirl 1		Brush Swirl 1		Concert SD		Hyoushigi		Standard 1 Kick 1	
41	Brush Low Tom 2		<–		Timpani F		Ohkawa		Standard 1 Kick 2	
42	Brush Closed Hi-Hat	[EXC1]	[RND] Brush Closed Hi-Hat	[EXC1]	Timpani F#		High Kotsuzumi		Standard 2 Kick 1	
43	Brush Low Tom 1		<–		Timpani G		Low Kotsuzumi		Standard 2 Kick 2	
44	Pedal Hi-Hat	[EXC1]	Pedal Hi-Hat	[EXC1]	Timpani G#		Ban Gu		Kick Drum1	
45	Brush Mid Tom 2		Brush Mid Tom 2		Timpani A		Big Gong		Kick Drum 2	
46	Brush Open Hi-Hat	[EXC1]	[RND] Brush Open Hi-Hat	[EXC1]	Timpani A#		Small Gong		Soft Kick	
47	Brush Mid Tom 1		<–		Timpani B		Bend Gong		Jazz Kick 1	
C3 48	Brush High Tom 2		<–		Timpani c		Thai Gong		Jazz Kick 2	
49	Brush Crash Cymbal		[RND] Brush Crash Cymbal		Timpani c#		Rama Cymbal		Concert BD 1	
50	Brush High Tom 1		<–		Timpani d		Gamelan Gong		Room Kick 1	
51	Brush Ride Cymbal		[RND] Brush Ride Cymbal		Timpani d#		Udo Short	[EXC1]	Room Kick 2	
52	<–		<–		Timpani e		Udo Long	[EXC1]	Power Kick1	*
53	Brush Ride Bell		[RND] Brush Ride Bell		Timpani f		Udo Slap		Power Kick2	
54	<–		<–		<–		Bendir		Electric Kick 2	
55	<–		<–		<–		Req Dum		Electric Kick 1	
56	<–		<–		<–		Req Tik		Electric Kick	
57	<–		<–		Concert Cymbal 2		Tabla Te		TR-808 Kick	
58	<–		<–		<–		Tabla Na		TR-909 Kick	
59	Ride Cymbal Edge		Ride Cymbal Edge		Concert Cymbal 1		Tabla Tun		Dance Kick	
C4 60	<–		<–		<–		Tabla Ge		Standard 1 Snare 1	
61	<–		<–		<–		Tabla Ge Hi		Standard 1 Snare 2	
62	<–		<–		<–		Talking Drum	*	Standard 2 Snare 1	
63	<–		<–		<–		Bend Talking Drum	*	Standard 2 Snare 2	
64	<–		<–		<–		Caxixi		Tight Snare	
65	<–		<–		<–		Djembe		Concert Snare	
66	<–		<–		<–		Djembe Rim		Jazz Snare 1	
67	<–		<–		<–		Timbales Low		Jazz Snare 2	
68	<–		<–		<–		Timbales Paila		Room Snare 1	
69	<–		<–		<–		Timbales High		Room Snare 2	
70	<–		<–		<–		Cowbell		Power Snare 1	
71	<–		<–		<–		High Bongo		Power Snare 2	
C5 72	<–		<–		<–		Low Bongo		Gated Snare	
73	<–		<–		<–		Mute High Conga		Dance Snare 1	
74	<–		<–		<–		Open High Conga		Dance Snare 2	*
75	<–		<–		<–		Mute Low Conga		Disco Snare	
76	<–		<–		<–		Conga Slap		Electric Snare 2	*
77	<–		<–		<–		Open Low Conga		House Snare	
78	<–		<–		<–		Conga Slide	*	Electric Snare 1	*
79	<–		<–		<–		Mute Pandiero		Electric Snare 3	
80	<–		<–		<–		Open Pandiero		TR-808 Snare 1	
81	<–		<–		<–		Open Surdo	[EXC2]	TR-808 Snare 2	
82	<–		<–		<–		Mute Surdo	[EXC2]	TR-909 Snare 1	
83	<–		<–		<–		Tamborim		TR-909 Snare 2	
C6 84	<–		<–		<–		High Agogo		Brush Tap 1	
85	<–		<–		<–		Low Agogo		Brush Tap 2	
86	<–		<–		<–		Shaker		Brush Slap 1	
87	<–		<–		<–		High Whistle	[EXC3]	Brush Slap 2	
88	Applause		Applause		Applause		Low Whistle	[EXC3]	Brush Slap 3	
89	---		---		---		Mute Cuica	[EXC4]	Brush Swirl 1	
90	---		---		---		Open Cuica	[EXC4]	Brush Swirl 2	
91	---		---		---		Mute Triangle	[EXC5]	Brush Long Swirl	
92	---		---		---		Open Triangle	[EXC5]	Standard 1 Snare 1	
93	---		---		---		Short Guiro	[EXC6]	Standard 1 Snare 2	
94	---		---		---		Long Guiro	[EXC6]	Standard 1 Snare 3	
95	---		[L] Brush Kick 2		---		Cabasa Up		Rap Snare	
C7 96	---		[L] Brush Kick 1		---		Cabasa Down		Hip-Hop Snare 2	

PC : Program Number (Drum Set Number)
<– : Same as the percussion sound of "STANDARD1"(PC1).
-- : No sound
[EXC] : Percussion sound of the same number will not be heard at the same time.
* : Tones which are created using two voices

SC-8820 Drum Set (6)

** About Notes 0–21, and 95–127, refer to p.76.*

	PC 52 KICK & SNARE 2		PC 53 ASIA		PC 54 CYMBAL&CLAPS		PC55 GAMELAN 1		PC56 GAMELAN 2	
22	---		---		---		---		---	
23	---		---		---		---		---	
C1 24	---		---		---		---		---	
25	CR-78 Kick 1		Gamelan Gong 1		---		---		---	
26	CR-78 Kick 2		Gamelan Gong 2		---		---		---	
27	TR-606 Kick		Gamelan Gong 3		---		---		---	
28	TR-707 Kick		Gamelan Gong 4		---		---		---	
29	TR-808 Kick 1		Gamelan Gong 5		---		---		---	
30	TR-909 Kick 1		Gamelan Gong 6		---		---		---	
31	TR-909 Kick 2		Gamelan Gong 7		---		---		---	
32	Hip-Hop Kick 2		Gamelan Gong 8		Reverse Open Hi-Hat		---		---	
33	Hip-Hop Kick 1		Gamelan Gong 9		Reverse Closed Hi-Hat 1		---		---	
34	Jungle Kick 2		Gamelan Gong 10		Reverse Closed Hi-Hat 2		---		---	
35	Jungle Kick 1		Gender 1		Jungle Hi-Hat	[EXC1]	---		---	
C2 36	Techno Kick 2		Gender 2		Closed Hi-Hat	[EXC1]	Kendang Wadon		Kendang Wadon	
37	Techno Kick 1		Gender 3		Closed Hi-Hat 2	[EXC1]	Kendang Lanang		Kendang Lanang	
38	Standard 1 Kick 2		Gender 4		Closed Hi-Hat 3	[EXC1]	Bebarongan		Bebarongan	
39	Standard 1 Kick 1		Gender 5		Closed Hi-Hat 4	[EXC1]	Pelegongan		Pelegongan	
40	Standard 1 Kick 2	*	Bonang 1		Closed Hi-Hat	[EXC1]	Kelontuk	[EXC1]	Kelontuk	[EXC1]
41	Standard 1 Kick 1	*	Bonang 2		TR-707 Closed Hi-Hat	[EXC1]	Kelontuk Mute	[EXC1]	Kelontuk Mute	[EXC1]
42	Brush Kick 2		Bonang 3		TR-606 Closed Hi-Hat	[EXC1]	Kelontuk Side	[EXC1]	Kelontuk Side	[EXC1]
43	Brush Kick 1	*	Bonang 4		TR-808 Closed Hi-Hat	[EXC1]	Gamelan Gong Wadon		Gamelan Gong Wadon	
44	Jazz Kick 2		Bonang 5		TR-808 Closed Hi-Hat	[EXC1]	Gamelan Gong Lanang		Gamelan Gong Lanang	
45	Jazz Kick 1		Rama Cymbal Low		CR-78 Closed Hi-Hat	[EXC1]	Ceng-Ceng	*	Ceng-Ceng	*
46	Hip-Hop Kick 2		Rama Cymbal High		Pedal Hi-Hat	[EXC1]	Kopyak Open	[EXC2]	Kopyak Open	[EXC2]
47	Hip-Hop Kick 1		Sagat Open	[EXC7]	Pedal Hi-Hat	[EXC1]	Kopyak Mute	[EXC2]	Kopyak Mute	[EXC2]
C3 48	Concert BD 1 Mute	[EXC1]	Sagat Closed	[EXC7]	Pedal Hi-Hat	[EXC1]	Kajar		Kajar	
49	Concert BD 1	[EXC1]	Jaws Harp		Half-Open Hi-Hat 1	[EXC1]	Kempur	*	Kempur	*
50	Room Kick 2		Wadaiko	*	Half-Open Hi-Hat 2	[EXC1]	Jegogan	*	Jegogan	*
51	Room Kick 1	*	Wadaiko Rim	*	Open Hi Hat	[EXC1]	Jegogan	*	Jegogan	*
52	Jungle Kick 2		Small Taiko		Open Hi-Hat 2	[EXC1]	Jegogan	*	Jegogan	*
53	Jungle Kick 1		Shimetaiko		Open Hi-Hat 3	[EXC1]	Jegogan	*	Jegogan	*
54	Jungle Kick Roll		Atarigane		Open Hi-Hat 2	[EXC1]	Jegogan	*	Jegogan	*
55	Fat Kick		Hyoushigi		TR-909 Open Hi-Hat	[EXC1]	Jublag		Jublag	
56	Dance Kick		Ohkawa		TR-707 Open Hi-Hat	[EXC1]	Jublag		Jublag	
57	TR-808 Kick		High Kotsuzumi		TR-606 Open Hi-Hat	[EXC1]	Jublag		Jublag	
58	TR-909 Kick 2		Low Kotsuzumi		TR-808 Open Hi-Hat	[EXC1]	Jublag		Jublag	
59	TR-909 Kick 1		Yyoo Dude		TR-808 Open Hi-Hat	[EXC1]	Jublag		Jublag	
C4 60	Standard 1 Snare 1	*	Buk		CR-78 Open Hi-Hat	[EXC1]	Penyacah		Penyacah	
61	Standard 1 Snare 2		Buk Rim		Crash Cymbal 1	[EXC3]	Penyacah		Penyacah	
62	Standard 2 Snare 1		Gengari p	[EXC1]	Crash Cymbal 2	[EXC4]	Penyacah		Penyacah	
63	Standard 2 Snare 2		Gengari Mute Low	[EXC1]	Crash Cymbal 3		Penyacah		Penyacah	
64	Tight Snare		Gengari f	[EXC2]	Brush Crash Cymbal		Penyacah		Penyacah	
65	Concert Snare		Gengari Mute High	[EXC2]	Hard Crash Cymbal	*	Penyacah		Penyacah	
66	Jazz Snare 1		Gengari Samll		TR-909 Crash Cymbal		Penyacah		Penyacah	
67	Jazz Snare 2		Jang-Gu Che		TR-808 Crash Cymbal		Pemade		Pemade	
68	Room Snare 1		Jang-Gu Kun		Mute Crash Cymbal 1	[EXC3]	Pemade		Pemade	
69	Room Snare 2		Jang-Gu Rim		Mute Crash Cymbal 2	[EXC4]	Pemade		Pemade	
70	LoFi Snare 1		Jing p	[EXC3]	Reverse Crash Cymbal 1		Pemade		Pemade	
71	LoFi Snare 2		Jing f	[EXC3] *	Reverse Crash Cymbal 2		Pemade		Pemade	
C5 72	Gated Snare		Jing Mute	[EXC3]	Reverse Crash Cymbal 3		Pemade		Pemade	
73	LoFi Snare Rim		Asian Gong		Reverse TR-909 Crash Cymbal		Pemade		Pemade	
74	Dance Snare 2		Big Gong		Splash Cymbal		Pemade		Pemade	
75	HipHop Snare 1		Small Gong		Splash Cymbal		Pemade		Pemade	
76	HipHop Snare 2		Pai Ban		Ride Bell		Pemade		Pemade	
77	Dance Snare		Ban Gu		Brush Ride Bell		Reyong		Reyong	
78	TR-606 Snare 2		Tang Gu	[EXC4]	Ride Cymbal 1		Reyong		Reyong	
79	Techno Snare		Tang Gu Mute	[EXC4]	Ride Cymbal 2		Reyong		Reyong	
80	House Snare		Shou Luo	*	Brush Ride Cymbal		Reyong		Reyong	
81	Rock Snare Dry		Bend Gong		Ride Cymbal Low Inner		Reyong		Reyong	
82	Jungle Snare		Hu Yin Luo Low	*	Ride Cymbal Mid Inner		Reyong		Reyong	
83	Jungle Snare Roll		Hu Yin Luo Mid	[EXC5]	Ride Cymbal High Inner		Reyong		Reyong	
C6 84	Brush Tap 1		Hu Yin Luo Mid 2	[EXC5]	Ride Cymbal Low Edge		Reyong		Reyong	
85	Brush Tap 2		Hu Yin Luo High	[EXC6]	Ride Cymbal Mid Edge		Reyong		Reyong	
86	Brush Tap 2		Hu Yin Luo High 2	[EXC6]	Ride Cymbal High Edge		Reyong		Reyong	
87	Brush Slap 2		Nao Bo		TR-606 Ride Cymbal		Reyong		Reyong	
88	Brush Slap 3		Xiao Bo		TR-808 Ride Cymbal		Reyong		Reyong	
89	Brush Swirl 1		Dholak 1		Chinese Cymbal		---		---	
90	Brush Swirl 2		Dholak 2		Chinese Cymbal 2		---		---	
91	Brush Long Swirl		---		Hand Clap		---		---	
92	Standard 1 Snare 1		---		Hand Clap 2		---		---	
93	Standard 1 Snare 2		---		Hand Clap		---		---	
94	Standard 1 Snare 3		---		Hand Clap		---		---	
95	Rap Snare		---		Hand Clap 2		---		---	
C7 96	Hip-Hop Snare 2		---		TR-707 Hand Clap		---		---	

SC-8820 Drum Set (7)

* *About Notes 0–21, and 95–127, refer to p.76, p.77.*

	PC 57 SFX		PC 58 RHYTHM FX		PC 59 RHYTHM FX 2	PC 60 RHYTHM FX 3
22	MC-500 Beep 2		---		---	Reverse Clean Guitar Mute Up
23	Guitar Slide		---		---	Reverse Clean Guitar Mute Down
C1 24	Guitar Wah		---		---	Reverse Distortion Guitar Cut Noise Up
25	Guitar Slap		---		---	Reverse Distortion Guitar Cut Noise Down
26	Chord Stroke Down		---		---	Reverse Distortion Guitar Stroke Noise
27	Chord Stroke Up		---		---	Reverse Distortion Guitar Mute Noise
28	Biwa FX	*	---		---	Reverse Steel Guitar Slide Noise 1
29	Phonograph Noise		---		---	Reverse Steel Guitar Slide Noise 2
30	Tape Rewind		---		---	Reverse Steel Guitar Slide Noise 3
31	Scratch Push 2	[EXC1]	---		---	Reverse Steel Guitar Slide Noise 4
32	Scratch Pull 2	[EXC1]	---		---	Reverse Steel Guitar Stroke Noise
33	Cutting Noise 2 Up		---		---	Reverse Steel Guitar Stroke Noise Up 1
34	Cutting Noise 2 Down		---		---	Reverse Steel Guitar Stroke Noise Down 1
35	Distortion Guitar Cutting Noise Up		---		---	Reverse Steel Guitar Stroke Noise Up 2
C2 36	Distortion Guitar Cutting Noise Down		Reverse Kick 1		Reverse TR-707 Kick 1	Reverse Steel Guitar Stroke Noise Down 2
37	Bass Slide		Reverse Concert Bass Drum		Reverse TR-909 Kick 1	Reverse Trombone Noise
38	Pick Scrape		Reverse Power Kick1		Reverse Hip-Hop Kick 1	Reverse Trumpet Noise
39	High Q		Reverse Electric Kick 1		Reverse Jungle Kick 2	Reverse Standard Kick 2
40	Slap		Reverse Snare 1		Reverse Techno Kick 2	Reverse Standard Kick 1
41	Scratch Push	[EXC7]	Reverse Snare 2		Reverse TR-606 Snare 2	Reverse Room Kick 2
42	Scratch Pull	[EXC7]	Reverse Standard 1 Snare 1		Reverse CR-78 Snare 1	Reverse Room Kick 1
43	Sticks		Reverse Tight Snare		Reverse CR-78 Snare 2	Reverse Jazz Kick 2
44	Square Click		Reverse Dance Snare		Reverse Jungle Snare 2	Reverse Jazz Kick 1
45	Metronome Click		Reverse 808 Snare		Reverse Techno Snare 2	Reverse Brush Kick 2
46	Metronome Bell		Reverse Tom 1		Reverse TR-707 Snare	Reverse Brush Kick 1
47	Guitar Fret Noise		Reverse Tom 2		Reverse TR-606 Snare 1	Reverse HipHop Kick 2
C3 48	Guitar Cutting Noise Up		Reverse Sticks		Reverse TR-909 Snare 1	Reverse HipHop Kick 1
49	Guitar Cutting Noise Down		Reverse Slap		Reverse Hip-Hop Snare 2	Reverse Jungle Kick 2
50	String Slap of Double Bass		Reverse Cymbal 1		Reverse Jungle Snare 1	Reverse Jungle Kick 1
51	Flute Key Click Noise		Reverse Cymbal 2		Reverse House Snare	Reverse TR-808 Kick
52	Laughing		Reverse Open Hi-Hat		Reverse Closed Hi-Hat	Reverse TR-909 Kick 2
53	Screaming		Reverse Ride Cymbal		Reverse TR-606 Closed Hi-Hat	Reverse TR-909 Kick 1
54	Punch		Reverse CR-78 Open Hi-Hat		Reverse TR-707 Closed Hi-Hat	Reverse Fat Kick
55	Heart Beat		Reverse Closed Hi-Hat		Reverse TR-808 Closed Hi-Hat	Reverse Dance Kick
56	Footsteps 1		Reverse Gong		Reverse Jungle Hi-Hat	Reverse Standard Snare 1
57	Footsteps 2		Reverse Bell Tree		Reverse Tambourine 2	Reverse Standard Snare 2
58	Applause	*	Reverse Guiro		Reverse Shake Tambourine	Reverse Room Snare 1
59	Door Creaking		Reverse Bendir		Reverse TR-808 Open Hi-Hat	Reverse Room Snare 2
C4 60	Door		Reverse Gun Shot		Reverse TR-707 Open Hi-Hat	Reverse Jazz Snare 1
61	Scratch		Reverse Scratch		Reverse Open Hi-Hat	Reverse Jazz Snare 2
62	Wind Chimes	*	Reverse Laser Gun		Reverse TR-606 Open Hi-Hat	Reverse Brush Snare 1
63	Car - Engine		Key Click		Reverse Hu Yin Luo	Reverse Brush Snare 2
64	Car - Stop		Techno Thip		Reverse TR-707 Crash Cymbal	Reverse Lo-Fi Snare 1
65	Car - Passing		Pop Drop		Voice One	Reverse Lo-Fi Snare 2
66	Car - Crash	*	Woody Slap		Reverse Voice One	Reverse HipHop Snare 1
67	Siren		Distortion Kick	*	Voice Two	Reverse HipHop Snare 2
68	Train		Syn. Drops		Reverse Voice Two	Reverse House Snare 1
69	Jetplane	*	Reverse Hi Q		Voice Three	Reverse Jungle Snare
70	Helicopter		Pipe		Reverse Voice Three	Reverse 606 Snare 2
71	Starship	*	Ice Block		Voice Tah	Reverse Techno Snare
C5 72	Gun Shot		Digital Tambourine	*	Reverse Voice Tah	Reverse Dance Snare
73	Machine Gun		Alias		Voice Ou	Reverse Rock Snare Dry
74	Laser Gun		Modulated Bell		Voice Au	Reverse Lo-Fi Snare Rim
75	Explosion		Spark		Voice Whey	Reverse 909 Snare Rim
76	Dog		Metallic Percussion		Frog Vpoce	Reverse Jungle Snare Rim
77	Horse-Gallop		Velocity Noise FX		Reverse Yyoo Dude	Reverse Dance Snare Rim
78	Birds	*	Stereo Noise Clap	*	Douby	Reverse House Snare Rim
79	Rain		Swish		Reverse Douby	Reverse Brush Tom 1
80	Thunder		Slappy	*	Baert High	Reverse Brush Tom 2
81	Wind		Voice Ou		Baert Low	Reverse Brush Tom 3
82	Seashore		Voice Au		Bounce	Reverse 606 Tom
83	Stream	*	Hoo		Reverse bounce	Reverse Jungle Crash Cymbal
C6 84	Bubble	*	Tape Stop 1	*	Distortion Knock	Reverse Standard Closed Hi-Hat
85	Kitty		Tape Stop 2	*	Guitar Slide	Reverse Room Closed Hi-Hat
86	Bird 2		Missile	*	Sub Marine	Reverse Jazz Closed Hi-Hat
87	Growl		Space Birds		Noise Attack	Reverse Brush Closed Hi-Hat
88	<–		Flying Monster		Space Worms	Reverse 707 Claps
89	Telephone 1		---		Emergency !	Reverse 909 Claps
90	Telephone 2		---		Calculating...	Reverse R&B Claps 1
91	Small Club 1	*	---		Saw LFO Saw	Reverse HipHop Claps
92	Small Club 2	*	---		---	Reverse Comp Claps 2
93	Applause Wave	*	---		---	Reverse Shaker 2
94	Eruption		---		---	Reverse Jungle Shaker
95	Big Shot	*	---		---	Reverse Clap Hit
C7 96	Percussion Bang	*	---		---	Reverse Boeeeen

PC : Program Number (Drum Set Number)
<– : Same as the percussion sound of "STANDARD1"(PC1).
-- : No sound
[EXC] : Percussion sound of the same number will not be heard at the same time.
* : Tones which are created using two voices

SC-8820 Drum Set (8)

	PC 61 SFX 2	PC 62 VOICE	PC 63 CYM&CLAPS 2
22	---	---	---
23	---	---	---
C1 24	---	---	---
25	---	---	---
26	---	---	---
27	---	---	---
28	---	---	---
29	---	---	---
30	---	---	---
31	Acoustic Bass Mute Noise	---	---
32	Acoustic Bass Touch Noise	---	Reverse Standard Closed Hi-Hat
33	Acoustic Bass Attack Noise	---	Reverse Room Closed Hi-Hat
34	Distortion Guitar Mute Noise	---	Reverse Jazz Closed Hi-Hat
35	Steel Guitar Slide Noise 1	---	Reverse Brush Closed Hi-Hat
C2 36	Steel Guitar Slide Noise 2	Reverse Breath Slow	Standard 1 Closed Hi-Hat
37	Steel Guitar Slide Noise 3	Reverse Breath Short	Room Closed Hi-Hat
38	Steel Guitar Slide Noise 4	Reverse Breath Strong	Jazz Closed Hi-Hat
39	Guitar Stroke Noise 1	Reverse Woman's Breath	Brush Closed Hi-Hat
40	Guitar Stroke Noise 2	Reverse Man's Breath	TR-707 Closed Hi-Hat
41	Guitar Stroke Noise 3	Reverse Voice One	TR-606 Closed Hi-Hat
42	Guitar Stroke Noise 4	Reverse Voice Two	TR-808 Closed Hi-Hat
43	Guitar Stroke Noise 5	Reverse Voice Three	CR-78 Closed Hi-Hat
44	Open CD Tray	Reverse Voice Tah	Pedal Hi-Hat
45	Audio Switch	Reverse Voice Come On	Pedal Hi-Hat
46	Keyboard Typing 1	Reverse Voice Kikit	Pedal Hi-Hat
47	Keyboard Typing 2	Reverse Voice Aou	Half-Open Hi-Hat 1
C3 48	Keyboard Typing 3	Reverse Voice Oou	Half-Open Hi-Hat 2
49	Keyboard Typing 4	Reverse Voice Hie 2	Standard 1 Open Hi-Hat
50	Keyboard Typing 5	Reverse Baby Laughing	Room Open Hi-Hat
51	Keyboard Typing 6	Reverse Yyooh	Jazz Open Hi-Hat
52	Baby Laughing	Reverse Japanese Female Voice Lan	Brush Open Hi-Hat
53	Clap Hit	Reverse Ooue!	TR-909 Open Hi-Hat
54	Stab! 1	Flute Breath 1	TR-707 Open Hi-Hat
55	Stab! 2	Flute Breath 2	TR-606 Open Hi-Hat
56	Bounce Hit	Flute Breath 3	TR-808 Open Hi-Hat
57	Boeeeen	Voice Breath 1	CR-78 Open Hi-Hat
58	Glass Stir	Voice Breath 2	Standard 1 Crash Cymbal
59	Ice Ring	Voice One	Room Crash Cymbal
C4 60	Crack Bottle	Voice Two	Jazz Crash Cymbal
61	Pour Bottle	Voice Three	Brush Crash Cymbal
62	Soda	Voice Tah	Hard Crash Cymbal
63	Car Engine 2	Voice ComeOn	TR-909 Crash Cymbal
64	Car - Horn	Voice Kikit	Jungle Crash Cymbal
65	Railroad Crossing	Voice Aou	TR-808 Crash Cymbal
66	SL 1	Voice Oou	Standard 1 Mute Crash Cymbal
67	SL 2	Punch	Room Mute Crash Cymbal
68	Over Blow	Screaming	Jazz Mute Crash Cymbal
69	Sword Boom!	Laughing	Brush Mute Crash Cymbal
70	Sword Cross	Voice Hie	Mute Crash Cymbal 1
71	Industry Hit	Baby Laughing	Mute Crash Cymbal 2
C5 72	Drill Hit	Frog Vpoce	Reverse Standard 1 Crash Cymbal
73	Compresser	Yyooh Dude	Reverse Room Crash Cymbal
74	Thrill Hit	Voice Ou	Reverse Jazz Crash Cymbal
75	Explosion 2	Voice Au	Reverse Brush Crash Cymbal
76	Seal	Jazz Voice Thum	Splash Cymbal
77	Fancy Animal	Jazz Voice Bap	Standard Ride Bell
78	Cricket	Jazz Voice Dat	Room Ride Bell
79	Bear	Jazz Voice Dow	Jazz Ride Bell
80	Frog Vpoce	Voice Oohs 2	Brush Ride Bell
81	Wind 2	Voice Oohs Chord Maj7 A	Standard Ride Cymbal
82	Scratch 3	Voice Oohs Chord Maj7 B	Room Ride Cymbal
83	Scratch 4	Voice Oohs Chord Sus4 A	Jazz Ride Cymbal
C6 84	Scratch 5	Voice Oohs Chord Sus4 B	Brush Ride Cymbal
85	Scratch 6	Japanese Female Voice Lah	TR-606 Ride Cymbal
86	Scratch 7	Japanese Female Voice Lan	TR-808 Ride Cymbal
87	Noise Attack	Japanese Male Voice Wah	Chinese Cymbal
88	Bounce	Japanese Male Voice Woh	Chinese Cymbal 2
89	Dist Knock	---	TR-707 Claps
90	Bound	---	Hip-Hop Claps
91	---	---	R&B Claps
92	---	---	TR-909 Claps
93	---	---	Comp Claps 2
94	---	---	Hand Clap
95	---	---	Hand Clap 2
C7 96	---	---	TR-707 Hand Clap

SC-8820 Drum Set (9)

* *Notes 0–21 and 95–127 are as follows.*

		PC1 STANDARD 1		PC2 STANDARD 2 PC17 POWER	PC3 STANDARD L/R		PC9 ROOM		PC10 HIP HOP	
C-1	0	Standard 1 Kick 1		<–	---		<–		Electric Kick 2	
	1	Standard 1 Kick 2		<–	---		<–		Electric Kick 1	*
	2	Standard 2 Kick 1		<–	---		<–		CR-78 Kick 1	
	3	Standard 2 Kick 2		<–	---		<–		CR-78 Kick 2	
	4	Kick Drum 1		<–	---		<–		TR-606 Kick1	
	5	Kick Drum 2		<–	---		<–		TR-707 Kick 1	
	6	Jazz Kick 1		<–	---		<–		TR-808 Kick	
	7	Jazz Kick 2		<–	---		<–		TR-808 Kick	
	8	Room Kick 1		<–	---		<–		TR-808 Kick 2	
	9	Room Kick 2		<–	---		<–		TR-909 Kick	
	10	Power Kick 1		<–	---		<–		Dance Kick	
	11	Power Kick 2		<–	---		<–		Hip-Hop Kick 2	
C0	12	Electric Kick 2		<–	---		<–		TR-909 Kick 1	*
	13	Electric Kick 1	*	<–	---		<–		Hip-Hop Kick 3	
	14	TR-808 Kick		<–	---		<–		Jungle Kick 1	
	15	TR-909 Kick		<–	---		<–		Techno Kick 1	
	16	Dance Kick		<–	---		<–		Bounce Kick	
	17	Voice One		<–	<–		<–		<–	
	18	Voice Two		<–	<–		<–		<–	
	19	Voice Three		<–	<–		<–		<–	
	20	Room Kick 2		---	---		Standard 1 Kick 2	*	Jungle Kick 2	
	21	Room Kick 1	*	---	---		Standard 1 Kick 1	*	Jungle Kick 1	
		:		:	:		:		:	
		:		:	:		:		:	
		:		:	:		:		:	
	95	Room Snare 1		---	[L] Standard Kick 2	*	Standard 1 Snare 1	*	Room Snare 2	
	96	Room Snare 2		---	[L] Standard Kick 1	*	Standard 1 Snare 2		Dance Snare	
	97	Standard 1 Snare1		<–	[L] Standard Crash Cymbal	*	<–		Techno Hit	
	98	Standard 1 Snare 2		<–	[L] Standard Snare 1	*	<–		Philly Hit	*
	99	Standard 2 Snare 1		<–	[L] Standard Ride Cymbal		<–		Impact Hit	*
	100	Standard 2 Snare 2		<–	[L] Standard Snare 2		<–		Lo-Fi Rave	*
	101	Snare Drum 2		<–	[L] Standard Low Tom		<–		Bam Hit	
	102	Standard 1 Snare 1		<–	[L] Standard Closed Hi-Hat	[EXC8]	<–		Bim Hit	
	103	Standard 1 Snare 2		<–	[L] Standard Mid Tom		<–		Tape Rewind	
	104	Standard 1 Snare 3		<–	[L] Standard Ride Bell		<–		Phonograph Noise	
	105	Jazz Snare 1		<–	[L] Standard High Tom		<–		Power Snare 1	
	106	Jazz Snare 2		<–	[L] Standard Open Hi-Hat	[EXC8]	<–		Dance Snare 1	
	107	Room Snare 1		<–	[R] Standard Kick 2		<–		Dance Snare 2	
C8	108	Room Snare 2		<–	[R] Standard Kick 1		<–		Disco Snare	
	109	Power Snare 1		<–	[R] Standard Crash Cymbal		<–		Electric Snare 2	
	110	Power Snare 2		<–	[R] Standard Snare 1		<–		Electric Snare	
	111	Gated Snare		<–	[R] Standard Ride Cymbal		<–		Electric Snare 3	*
	112	Dance Snare 1		<–	[R] Standard Snare 2		<–		TR-606 Snare 2	
	113	Dance Snare 2		<–	[R] Standard Low Tom		<–		TR-707 Snare 1	
	114	Disco Snare		<–	[R] Standard Closed Hi-Hat	[EXC9]	<–		TR-808 Snare 2	
	115	Electric Snare 2		<–	[R] Standard Mid Tom		<–		TR-808 Snare 1	*
	116	Electric Snare		<–	[R] Standard Ride Bell		<–		TR-808 Snare 2	
	117	Electric Snare 3	*	<–	[R] Standard High Tom		<–		TR-909 Snare 1	
	118	TR-707 Snare 1		<–	[R] Standard Open Hi-Hat	[EXC9]	<–		TR-909 Snare 2	*
	119	TR-808 Snare 1		<–	---		<–		TR-909 Snare 1	
C9	120	TR-808 Snare 2	*	<–	---		<–		TR-909 Snare 2	
	121	TR-909 Snare 1		<–	---		<–		Rap Snare	
	122	TR-909 Snare 2	*	<–	---		<–		Jungle Snare	
	123	Rap Snare		<–	---		<–		House Snare 1	
	124	Jungle Snare 1		<–	---		<–		House Snare	*
	125	House Snare 1		<–	---		<–		House Snare 2	
	126	House Snare	*	<–	---		<–		Voice Tah	
	127	House Snare 2		<–	---		<–		Slappy	*

Appendix

PC : Program Number (Drum Set Number)
<– : Same as the percussion sound of "STANDARD1"(PC1).
-- : No sound
[EXC] : Percussion sound of the same number will not be heard at the same time.
* : Tones which are created using two voices

SC-8820 Drum Set (10)

** Notes 0–21 and 95–127 are as follows.*

		PC 11 JUNGLE		PC 12 TECHNO		PC 13 ROOM L/R		PC 14 HOUSE		PC 25 ELECTRONIC PC 26 TR-808	
C-1	0	Electric Kick 2		Electric Kick 2		---		Electric Kick 2		Electric Kick 2	
	1	Electric Kick 1	*	Electric Kick 1	*	---		Electric Kick 1	*	Electric Kick 1	*
	2	CR-78 Kick 1		CR-78 Kick 1		---		CR-78 Kick 1		CR-78 Kick 1	
	3	CR-78 Kick 2		CR-78 Kick 2		---		CR-78 Kick 2		CR-78 Kick 2	
	4	TR-606 Kick1		TR-606 Kick1		---		TR-606 Kick1		TR-606 Kick1	
	5	TR-707 Kick 1		TR-707 Kick 1		---		TR-707 Kick 1		TR-707 Kick 1	
	6	TR-808 Kick		TR-808 Kick		---		TR-808 Kick		TR-808 Kick	
	7	TR-808 Kick		TR-808 Kick		---		TR-808 Kick		TR-808 Kick	
	8	TR-808 Kick 2		TR-808 Kick 2		---		TR-808 Kick 2		TR-808 Kick 2	
	9	TR-909 Kick		TR-909 Kick		---		TR-909 Kick		TR-909 Kick	
	10	Dance Kick		Dance Kick		---		Dance Kick		Dance Kick	
	11	Hip-Hop Kick 2		Hip-Hop Kick 2		---		Hip-Hop Kick 2		Hip-Hop Kick 2	
C0	12	TR-909 Kick 1	*	TR-909 Kick 1	*	---		TR-909 Kick 1	*	TR-909 Kick 1	*
	13	Hip-Hop Kick 3		Hip-Hop Kick 3		---		Hip-Hop Kick 3		Hip-Hop Kick 3	
	14	Jungle Kick 1		Jungle Kick 1		---		Jungle Kick 1		Jungle Kick 1	
	15	Techno Kick 1		Techno Kick 1		---		Techno Kick 1		Techno Kick 1	
	16	Bounce Kick		Bounce Kick		---		Bounce Kick		Bounce Kick	
	17	<–		<–		<–		<–		<–	
	18	<–		<–		<–		<–		<–	
	19	<–		<–		<–		<–		<–	
	20	HipHop Kick 2		TR-909 Kick 2		---		Fat Kick		---	
	21	HipHop Kick 1		Fat Kick		---		Dance Kick		---	
		:		:		:		:		:	
		:		:		:		:		:	
		:		:		:		:		:	
	95	Rock Snare Dry		HipHop Snare 1		[L] Room Kick 2		LoFi Snare 2		---	
	96	LoFi Snare 1		HipHop Snare 2		[L] Room Kick 1	*	Jungle Snare		---	
	97	Techno Hit		Techno Hit		[L] Room Crash Cymbal		Techno Hit		Techno Hit	
	98	Philly Hit	*	Philly Hit	*	[L] Room Snare 1		Philly Hit		Philly Hit	*
	99	Impact Hit	*	Impact Hit	*	[L] Room Ride Cymbal		Impact Hit		Impact Hit	*
	100	Lo-Fi Rave	*	Lo-Fi Rave	*	[L] Room Snare 2		Lo-Fi Rave		Lo-Fi Rave	*
	101	Bam Hit		Bam Hit		[L] Room Low Tom		Bam Hit		Bam Hit	
	102	Bim Hit		Bim Hit		[L] Room Closed Hi-Hat	[EXC8]	Bim Hit		Bim Hit	
	103	Tape Rewind		Tape Rewind		[L] Room Mid Tom		Tape Rewind		Tape Rewind	
	104	Phonograph Noise		Phonograph Noise		[L] Room Ride Bell		Phonograph Noise		Phonograph Noise	
	105	Power Snare 1		Power Snare 1		[L] Room High Tom		Power Snare 1		Power Snare 1	
	106	Dance Snare 1		Dance Snare 1		[L] Room Open Hi-Hat	[EXC8]	Dance Snare 1		Dance Snare 1	
	107	Dance Snare 2		Dance Snare 2		[R] Room Kick 2		Dance Snare 2		Dance Snare 2	
C8	108	Disco Snare		Disco Snare		[R] Room Kick 1		Disco Snare		Disco Snare	
	109	Electric Snare 2		Electric Snare 2		[R] Room Crash Cymbal		Electric Snare 2		Electric Snare 2	
	110	Electric Snare		Electric Snare		[R] Room Snare 1		Electric Snare		Electric Snare	
	111	Electric Snare 3	*	Electric Snare 3	*	[R] Room Ride Cymbal		Electric Snare 3		Electric Snare 3	*
	112	TR-606 Snare 2		TR-606 Snare 2		[R] Room Snare 2		TR-606 Snare 2		TR-606 Snare 2	
	113	TR-707 Snare 1		TR-707 Snare 1		[R] Room Low Tom	*	TR-707 Snare 1		TR-707 Snare 1	
	114	TR-808 Snare 2		TR-808 Snare 2		[R] Room Closed Hi-Hat	[EXC9]	TR-808 Snare 2		TR-808 Snare 2	
	115	TR-808 Snare 1	*	TR-808 Snare 1	*	[R] Room Mid Tom	*	TR-808 Snare 1		TR-808 Snare 1	*
	116	TR-808 Snare 2		TR-808 Snare 2		[R] Room Ride Bell		TR-808 Snare 2		TR-808 Snare 2	
	117	TR-909 Snare 1		TR-909 Snare 1		[R] Room High Tom		TR-909 Snare 1		TR-909 Snare 1	
	118	TR-909 Snare 2	*	TR-909 Snare 2	*	[R] Room Open Hi-Hat	[EXC9]	TR-909 Snare 2		TR-909 Snare 2	*
	119	TR-909 Snare 1		TR-909 Snare 1		---		TR-909 Snare 1		TR-909 Snare 1	
C9	120	TR-909 Snare 2		TR-909 Snare 2		---		TR-909 Snare 2		TR-909 Snare 2	
	121	Rap Snare		Rap Snare		---		Rap Snare		Rap Snare	
	122	Jungle Snare		Jungle Snare		---		Jungle Snare		Jungle Snare	
	123	House Snare 1		House Snare 1		---		House Snare 1		House Snare 1	
	124	House Snare	*	House Snare	*	---		House Snare		House Snare	*
	125	House Snare 2		House Snare 2		---		House Snare 2		House Snare 2	
	126	Voice Tah		Voice Tah		---		Voice Tah		Voice Tah	
	127	Slappy	*	Slappy	*	---		Slappy		Slappy	*

SC-8820 Drum Set (11)

* *Notes 0–21 and 95–127 are as follows.*

		PC 27 DANCE		PC 28 CR-78 PC 29 TR-606 PC 30 TR-707 PC 31 TR-909		PC 33 JAZZ		PC 34 JAZZ L/R		PC 41 BRUSH	
C-1	0	Electric Kick 2		Electric Kick 2		<–		---		<–	
	1	Electric Kick 1	*	Electric Kick 1	*	<–		---		<–	
	2	CR-78 Kick 1		CR-78 Kick 1		<–		---		<–	
	3	CR-78 Kick 2		CR-78 Kick 2		<–		---		<–	
	4	TR-606 Kick1		TR-606 Kick1		<–		---		<–	
	5	TR-707 Kick 1		TR-707 Kick 1		<–		---		<–	
	6	TR-808 Kick		TR-808 Kick		<–		---		<–	
	7	TR-808 Kick		TR-808 Kick		<–		---		<–	
	8	TR-808 Kick 2		TR-808 Kick 2		<–		---		<–	
	9	TR-909 Kick		TR-909 Kick		<–		---		<–	
	10	Dance Kick		Dance Kick		<–		---		<–	
	11	Hip-Hop Kick 2		Hip-Hop Kick 2		<–		---		<–	
C0	12	TR-909 Kick 1	*	TR-909 Kick 1	*	<–		---		<–	
	13	Hip-Hop Kick 3		Hip-Hop Kick 3		<–		---		<–	
	14	Jungle Kick 1		Jungle Kick 1		<–		---		<–	
	15	Techno Kick 1		Techno Kick 1		<–		---		<–	
	16	Bounce Kick		Bounce Kick		<–		---		<–	
	17	<–		<–		<–		<–		<–	
	18	<–		<–		<–		<–		<–	
	19	<–		<–		<–		<–		<–	
	20	TR-909 Kick 2		---		Brush Kick 2		---		---	
	21	TR-909 Kick 1		---		Brush Kick 1	*	---		---	
		:		:		:		:		:	
		:		:		:		:		:	
		:		:		:		:		:	
	95	HipHop Snare 1		---		---		[L] Jazz Kick 2		---	
	96	Hip-Hop Snare 2		---		---		[L] Jazz Kick 1		---	
	97	Techno Hit		Techno Hit		---		[L] Jazz Crash Cymbal		---	
	98	Philly Hit	*	Philly Hit	*	Brush Tap 2		[L] Jazz Snare 1		---	
	99	Impact Hit	*	Impact Hit	*	Brush Slap 2		[L] Jazz Ride Cymbal		---	
	100	Lo-Fi Rave	*	Lo-Fi Rave	*	Brush Tap 1		[L] Jazz Snare 2		Brush Tap 1	
	101	Bam Hit		Bam Hit		Brush Tap 2		[L] Jazz Low Tom		Brush Tap 2	
	102	Bim Hit		Bim Hit		Brush Slap 1		[L] Jazz Closed Hi-Hat	[EXC8]	Brush Slap 1	
	103	Tape Rewind		Tape Rewind		Brush Slap 2		[L] Jazz Mid Tom		Brush Slap 2	
	104	Phonograph Noise		Phonograph Noise		Brush Slap 3		[L] Jazz Ride Bell		Brush Slap 3	
	105	Power Snare 1		Power Snare 1		Brush Swirl 1		[L] Jazz High Tom		Brush Swirl 1	
	106	Dance Snare 1		Dance Snare 1		Brush Swirl 2		[L] Jazz Open Hi-Hat	[EXC8]	Brush Swirl 2	
	107	Dance Snare 2		Dance Snare 2		Brush Long Swirl		[R] Jazz Kick 2		Brush Long Swirl	
C8	108	Disco Snare		Disco Snare		Jazz Snare 1		[R] Jazz Kick 1		Jazz Snare 1	
	109	Electric Snare 2		Electric Snare 2		Jazz Snare 2		[R] Jazz Crash Cymbal		Jazz Snare 2	
	110	Electric Snare		Electric Snare		Standard 1 Snare1		[R] Jazz Snare 1		Standard 1 Snare1	
	111	Electric Snare 3	*	Electric Snare 3	*	Standard 1 Snare2		[R] Jazz Ride Cymbal		Standard 1 Snare2	
	112	TR-606 Snare 2		TR-606 Snare 2		Standard 2 Snare1		[R] Jazz Snare 2		Standard 2 Snare1	
	113	TR-707 Snare 1		TR-707 Snare 1		Standard 2 Snare2		[R] Jazz Low Tom		Standard 2 Snare2	
	114	TR-808 Snare 2		TR-808 Snare 2		Snare Drum 2		[R] Jazz Closed Hi-Hat	[EXC9]	Snare Drum 2	
	115	TR-808 Snare 1	*	TR-808 Snare 1	*	Standard 1 Snare 1		[R] Jazz Mid Tom		Standard 1 Snare 1	
	116	TR-808 Snare 2		TR-808 Snare 2		Standard 1 Snare 2		[R] Jazz Ride Bell		Standard 1 Snare 2	
	117	TR-909 Snare 1		TR-909 Snare 1		Standard 1 Snare 3		[R] Jazz High Tom		Standard 1 Snare 3	
	118	TR-909 Snare 2	*	TR-909 Snare 2	*	Room Snare 1		[R] Jazz Open Hi-Hat	[EXC9]	Room Snare 1	
	119	TR-909 Snare 1		TR-909 Snare 1		Room Snare 2		---		Room Snare 2	
C9	120	TR-909 Snare 2		TR-909 Snare 2		Power Snare 1		---		Power Snare 1	
	121	Rap Snare		Rap Snare		Power Snare 2		---		Power Snare 2	
	122	Jungle Snare		Jungle Snare		Gated Snare		---		Gated Snare	
	123	House Snare 1		House Snare 1		Dance Snare 1		---		Dance Snare 1	
	124	House Snare	*	House Snare	*	Dance Snare 2		---		Dance Snare 2	
	125	House Snare 2		House Snare 2		Disco Snare		---		Disco Snare	
	126	Voice Tah		Voice Tah		Electric Snare 2		---		Electric Snare 2	
	127	Slappy	*	Slappy	*	Electric Snare 3	*	---		Electric Snare 3	*

PC : Program Number (Drum Set Number)
<– : Same as the percussion sound of "STANDARD1"(PC1).
-- : No sound
[EXC] : Percussion sound of the same number will not be heard at the same time.
* : Tones which are created using two voices

SC-8820 Drum Set (12)

** Notes 0–21 and 95–127 are as follows.*

		PC 42 BRUSH 2	PC 43 BRUSH 2 L/R	PC 49 ORCHESTRA	PC 50 ETHNIC	PC 51 KICK & SNARE	PC 52 KICK & SNARE 2
C-1	0	<–	---	<–	---		---
	1	<–	---	<–	---		---
	2	<–	---	<–	---		---
	3	<–	---	<–	---		---
	4	<–	---	<–	---		---
		<–	---	<–	---		---
	5	<–	---	<–	---		---
	6	<–	---	<–	---		---
	7	<–	---	<–	---		---
	8	<–	---	<–	---		---
	9	<–	---	<–	---		---
	10	<–	---	<–	---		---
	11	<–	---	<–	---		---
C0	12	<–	---	<–	---		---
	13	<–	---	<–	---		---
	14	<–	---	<–	---		---
	15	<–	---	<–	---		---
	16	<–	---	<–	---		---
	17	<–	<–	<–	---		---
	18	<–	<–	<–	---		---
	19	<–	<–	<–	---		---
	20	Jazz Kick 2	---	---	---		---
	21	Jazz Kick 1	---	---	---		---
		:	:	:	:		:
		:	:	:	:		:
		:	:	:	:		:
	95	---	[L] Brush Kick 2	---	Cabasa Up		Rap Snare
	96	---	[L] Brush Kick 1 *	---	Cabasa Down		Hip-Hop Snare 2
	97	---	[L] Brush Crash Cymbal	Applause 2 *	Claves		Jungle Snare 1
	98	Jazz Snare 1	[L] Brush Tap 2	Small Club 1 *	High Wood Block		Jungle Snare 2
	99	Jazz Snare 2	[L] Brush Ride Cymbal	Timpani D#	Low Wood Block		Techno Snare 1
	100	Brush Tap 1	[L] Brush Slap 2	Timpani E	---		Techno Snare 2
	101	Brush Tap 2	[L] Brush Low Tom	Timpani F	---		House Snare 2
	102	Brush Slap 1	[L] Brush Closed Hi-Hat [EXC8]	Timpani F#	---		CR-78 Snare 1
	103	Brush Slap 2	[L] Brush Mid Tom	Timpani G	---		CR-78 Snare 2
	104	Brush Slap 3	[L] Brush Ride Bell	Timpani G#	---		TR-606 Snare 1
	105	Brush Swirl 1	[L] Brush High Tom	Timpani A	---		TR-606 Snare 2
	106	Brush Swirl 2	[L] Brush Open Hi-Hat [EXC8]	Timpani A#	---		TR-707 Snare 1
	107	Brush Long Swirl	[R] Brush Kick 2	Timpani B	---		TR-707 Snare 2
C8	108	Jazz Snare 1	[R] Brush Kick 1	Timpani c	---		Standard 3 Snare 2
	109	Jazz Snare 2	[R] Brush Crash Cymbal	Timpani c#	---		TR-808 Snare 2
	110	Standard 1 Snare1	[R] Brush Tap 2	Timpani d	---		TR-909 Snare 1
	111	Standard 1 Snare2	[R] Brush Ride Cymbal	Timpani d#	---		TR-909 Snare 2
	112	Standard 2 Snare1	[R] Brush Slap 2	Timpani e	---		---
	113	Standard 2 Snare2	[R] Brush Low Tom	Timpani f	---		---
	114	Snare Drum 2	[R] Brush Closed Hi-Hat [EXC9]	---	---		---
	115	Standard 1 Snare 1	[R] Brush Mid Tom	---	---		---
	116	Standard 1 Snare 2	[R] Brush Ride Bell	---	---		---
	117	Standard 1 Snare 3	[R] Brush High Tom	---	---		---
	118	Room Snare 1	[R] Brush Open Hi-Hat [EXC9]	---	---		---
	119	Room Snare 2	---	---	---		---
C9	120	Power Snare 1	---	---	---		---
	121	Power Snare 2	---	---	---		---
	122	Gated Snare	---	---	---		---
	123	Dance Snare 1	---	---	---		---
	124	Dance Snare 2	---	---	---		---
	125	Disco Snare	---	---	---		---
	126	Electric Snare 2	---	---	---		---
	127	Electric Snare 3 *	---	---	---		---

SC-8820 Drum Set (13)

* *Notes 0–21 and 95–127 are as follows.*

		PC 57 SFX		PC 60 RHYTHM FX 3
C-1	0	---		---
	1	---		---
	2	---		---
	3	---		---
	4	---		---
	5	---		---
	6	---		---
	7	---		---
	8	---		---
	9	---		---
	10	---		---
	11	---		---
C0	12	---		---
	13	---		---
	14	---		---
	15	---		---
	16	---		---
	17	---		Reverse Bass Mute Noise
	18	---		Reverse Bass Touch Noise
	19	---		Reverse Bass Attack Noise
	20	---		Reverse Clean Guitar Cut Noise Up
	21	MC-500 Beep 1		Reverse Clean Guitar Cut Noise Down
		:		:
		:		:
		:		:
	95	Big Shot	*	Reverse Clap Hit
	96	Percussion Bang	*	Reverse Boeeeen
	97	---		Reverse Bounce
	98	---		Reverse CD Tray
	99	---		Reverse Drill
	100	---		Reverse Glass Stir
	101	---		Reverse Ice Ring
	102	---		Reverse Industry Hit
	103	---		Reverse Scratch 4
	104	---		Reverse Scratch 5
	105	---		Reverse Scratch 6
	106	---		Reverse Scratch 7
	107	---		Reverse Seal
C8	108	---		Reverse Stab! 1
	109	---		Reverse Stab! 2
	110	---		Reverse Sword Boom
	111	---		Reverse Sword Cross
	112	---		Reverse Thrill Hit
	113	---		Reverse Audio Switch
	114	---		Reverse Keyboard Typing 1
	115	---		Reverse Keyboard Typing 2
	116	---		Reverse Keyboard Typing 3
	117	---		Reverse Keyboard Typing 4
	118	---		Reverse Keyboard Typing 5
	119	---		Reverse Keyboard Typing 6
C9	120	---		---
	121	---		---
	122	---		---
	123	---		---
	124	---		---
	125	---		---
	126	---		---
	127	---		---

SOUND Canvas DIGITAL
Model SC-D70

MIDI Implementation Chart

Date : 2000.10
Version : 1.00

Function...		Transmitted	Recognized	Remarks
Basic	Default	X	1–16	When the power is off, it can be memorized.
Channel	Changed	X	1–16	
Mode	Default	X	Mode 3	
	Messages	X	Mode 3, 4 (M = 1)	* 2
	Altered	**********		
Note Number :	True Voice	X **********	0–127 0–127	
Velocity	Note On	X	O	
	Note Off	X	X	
After Touch	Key's	X	O *1	
	Channel's	X	O *1	
Pitch Bend		X	O *1	
Control Change	0, 32	X	O *1	Bank select
	1	X	O *1	Modulation
	5	X	O *1	Portamento time
	6, 38	X	O *1	Data entry
	7	X	O *1	Volume
	10	X	O *1	Panpot
	11	X	O *1	Expression
	64	X	O *1	Hold 1
	65	X	O *1	Portamento
	66	X	O *1	Sostenuto
	67	X	O *1	Soft
	84	X	O *1	Portamento control
	91	X	O *1	Effects 1 (Reverb Send Level)
	93	X	O *1	Effects 3 (Chorus Send Level)
	94	X	O *1	Effects 4 (Delay Send Level)
	98, 99	X	X *1	NRPN LSB, MSB
	100, 101	X	O *1	RPN LSB, MSB
Program Change		X	O *1	
	: True Number	**********	0–127	Program No. 1–128
System Exclusive		O	O *1	
System Common	: Song Position	X	X	
	: Song Select	X	X	
	: Tune Request	X	X	
System Real Time	: Clock	X	X	
	: Commands	X	X	
Aux Messages	: All Sound Off	X	O (120, 126, 127)	
	: Reset All Controllers	X	O	
	: Local ON/OFF	X	X	
	: All Notes Off	X	O (123–125)	
	: Active Sensing	O	O	
	: System Reset	X	X	
Notes		* 1 O X is selectable. * 2 Recognized as M=1 even if M≠1.		

Mode 1 : OMNI ON, POLY
Mode 2 : OMNI ON, MONO
Mode 3 : OMNI OFF, POLY
Mode 4 : OMNI OFF, MONO

O : Yes
X : No

Specifications

Model: Sound Canvas Digital SC-D70
(General MIDI System / GS Format)

° Audio Component

- USB Audio IN / OUT channel
  IN: 1 (Stereo)
  OUT: 1 (Stereo)

- Signal Processing
  AD / DA Conversion: 24 bit
  PC interface: 16 / 24 bit

- Sampling Rates
  Digital input / output 44.1 kHz / 48 kHz
  AD / DA Conversion 44.1 kHz / 48 kHz

° Instrument Component

- Number of parts
  32

- Maximum Polyphony
  64 (voices)

- Internal Sounds
  Sound Maps: 4 (SC-8820, SC-88Pro, SC-88, SC-55)
  Preset Sounds: 1608
  Drum sound sets: 63

- Effects
  Reverb (8 types)
  Chorus (8 types)
  Delay (10 types)
  2 Band Equalizer
  Insertion Effect (64 types)

- Display
  7 segments 3 digits LED

- Connectors
  USB connector
  Digital Audio IN / OUT Connector
  COAXIAL type (conforms to EIAJ CP-1201)
  OPTICAL type (conforms to S / PDIF)
  Audio Input jack (Stereo)
  Audio Output jack x 2 (Stereo)
  Mic / Guitar Input jack
  Headphones jack
  MIDI connector (IN / OUT)

- Power Supply
  AC 120 V, AC 230 V or AC 240 V

- Power Consumption
  AC 120 V 10 W
  AC 230 V 11 W
  AC 240 V 11 W

- Dimensions
  218 (W) x 238.5 (D) x 69.5 (H) mm
  8-9 / 16 (W) x 9-7 / 16 (D) x 2-3 / 4 (H) inches

- Weight
  1.7 kg
  3 lb. 12 oz.

- Accessories
  USB Cable
  AC Cable
  Start-up manual
  Installation Guide for Macintosh Users
  Owner's manual
  CD-ROM

* *In the interest of product improvement, the specifications and/or appearance of this unit are subject to change without prior notice.*

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MEMO

For EU Countries

CE This product complies with the requirements of European Directives EMC 89/336/EEC and LVD 73/23/EEC.

For the USA

FEDERAL COMMUNICATIONS COMMISSION
RADIO FREQUENCY INTERFERENCE STATEMENT

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Unauthorized changes or modification to this system can void the users authority to operate this equipment.
This equipment requires shielded interface cables in order to meet FCC class B Limit.

For Canada

NOTICE

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

AVIS

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

Information

When you need repair service, call your nearest Roland / EDIROL Service Center or authorized Roland / EDIROL distributor in your country as shown below.

Roland

AFRICA

EGYPT
Al Fanny Trading Office
P.O. Box 2904,
El Horrieh Heliopolos, Cairo,
EGYPT
TEL: (02) 4185531

REUNION
Maison FO - YAM Marcel
25 Rue Jules Merman, ZL
Chaudron - BP79 97491
Ste Clotilde REUNION
TEL: 28 29 16

SOUTH AFRICA
That Other Music Shop (PTY) Ltd.
11 Melle Street (Cnr Melle and Juta Street)
Braamfontein, 2001,
Republic of SOUTH AFRICA
TEL: (011) 403 4105

Paul Bothner (PTY) Ltd.
17 Werdmuller Centre Claremont 7700
Republic of SOUTH AFRICA

P.O. Box 23032
Claremont, Cape Town
SOUTH AFRICA, 7735
TEL: (021) 64 4030

ASIA

CHINA
Beijing Xinghai Musical Instruments Co., Ltd.
6 Huangmuchang Chao Yang District, Beijing, CHINA
TEL: (010) 6774 7491

HONG KONG
Tom Lee Music Co., Ltd. Service Division
22-32 Pun Shan Street, Tsuen Wan, New Territories,
HONG KONG
TEL: 2415 0911

INDIA
Rivera Digitec (India) Pvt. Ltd.
409, Nirman Kendra Mahalaxmi Flats Compound Off. Dr. Edwin Moses Road, Mumbai-400011,
INDIA
TEL: (022) 498 3079

INDONESIA
PT Citra IntiRama
J1. Cideng Timur No. 15J-150
Jakarta Pusat
INDONESIA
TEL: (021) 6324170

KOREA
Cosmos Corporation
1461-9, Seocho-Dong,
Seocho Ku, Seoul, KOREA
TEL: (02) 3486-8855

MALAYSIA
Bentley Music SDN BHD
140 & 142, Jalan Bukit Bintang
55100 Kuala Lumpur,MALAYSIA
TEL: (03) 2443333

PHILIPPINES
G.A. Yupangco & Co. Inc.
339 Gil J. Puyat Avenue
Makati, Metro Manila 1200,
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TEL: (02) 899 9801

SINGAPORE
CRISTOFORI MUSIC PTE LTD
Blk 3014, Bedok Industrial Park E,
#02-2148, SINGAPORE 489980
TEL: 243 9555

TAIWAN
ROLAND TAIWAN ENTERPRISE CO., LTD.
Room 5, 9fl. No. 112 Chung Shan N.Road Sec.2, Taipei, TAIWAN, R.O.C.
TEL: (02) 2561 3339

THAILAND
Theera Music Co. , Ltd.
330 Verng NakornKasem, Soi 2,
Bangkok 10100, THAILAND
TEL: (02) 2248821

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138 Tran Quang Khai St.,
District 1
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Instrumentos Musicales S.A.
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TEL: (525) 668 04 80

La Casa Wagner de Guadalajara s.a. de c.v.
Av. Corona No. 202 S.J.
Guadalajara, Jalisco Mexico
C.P.44100 MEXICO
TEL: (3) 613 1414

PANAMA
SUPRO MUNDIAL, S.A.
Boulevard Andrews, Albrook,
Panama City,
REP. DE PANAMA
TEL: (507) 315-0101

URUGUAY
Todo Musica S.A.
Cuareim 1844, Montevideo,
URUGUAY
TEL: 5982-924-2335

VENEZUELA
Musicland Digital C.A.
Av. Francisco de Miranda,
Centro Parque de Cristal, Nivel C2 Local 20 Caracas
VENEZUELA
TEL: (02) 285 9218

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Moon Stores
Bab Al Bahrain Road,
P.O. Box 20077
State of BAHRAIN
TEL: 211 005

CYPRUS
Radex Sound Equipment Ltd.
17 Diagorou St., P.O. Box 2046,
Nicosia CYPRUS
TEL: (02) 453 426

ISRAEL
Halilit P. Greenspoon & Sons Ltd.
8 Retzif Fa'aliya Hashnya St.
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